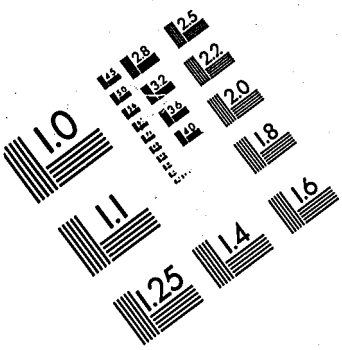

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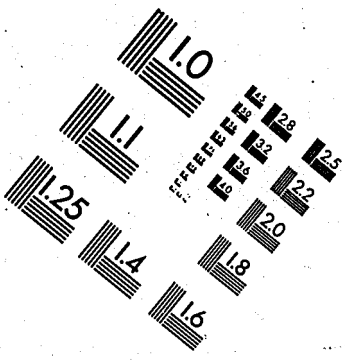

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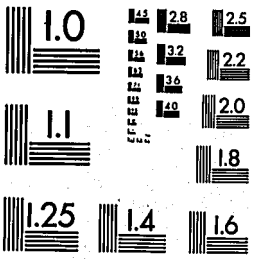

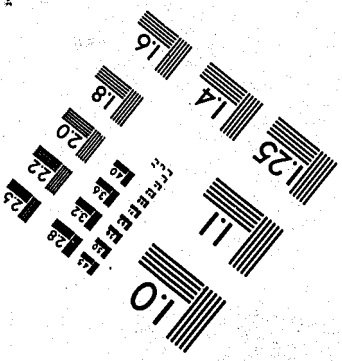

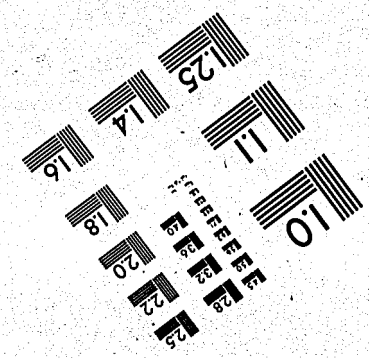

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THOMAS A. EDISON PAPERS

A SELECTIVE MICROFILM EDITION
PART II
(1879-1886)

REEL 93

SPECIAL COLLECTIONS SERIES (SPC-4)

Charles Batchelor Collection
Letterbooks
Accounts

CHARLES BATCHELOR LETTERBOOKS, 1875-1890

These six books contain copies of Batchelor's personal and business correspondence. Many of the letters pertain to Edison, his inventions, and his businesses. Among the topics discussed in the early correspondence are the removal of Edison and his laboratory to Menlo Park in 1876; the operations of the electric pen business, of which Batchelor was the general manager in 1875-1876; and work on telegraphy and telephony during the mid-1870s. The correspondence from the years 1878-1883 deals extensively with Edison's electric lighting experiments and the operations of the various electric light companies that he established. Two of the books contain correspondence from 1881-1883, when Batchelor was Edison's representative in Paris, and relate to electric lighting in Europe. The last book dates from 1887 and concerns the equipping of Edison's West Orange laboratory.

The following categories of documents have not been filmed: routine letters of transmittal or acknowledgment; routine correspondence concerning the ordering and shipping of materials; routine letters about financial transactions; personal and family correspondence after 1900 unrelated to Edison; duplicate copies of cables and other selected documents. A few letters were not filmed because they are illegible. Although every technical effort has been made to ensure the legibility of the documents on the microfilm, some of these materials may be difficult to read because of spreading, smeared, or faint ink; bleedthrough; and severely wrinkled or torn pages.

The books appear on the microfilm in the following order:

1. Cat. 1238 (1875-1878)
2. Cat. 1330 (1878-1879, 1885)
3 Cat. 1331 (1881-1883)
4 Cat. 1239 (1881-1883)
5. E6757-2 (1887)
6. Cat. 1247 (1887-1890)

Charles Batchelor Letterbook, Cat. 1238

This letterbook covers the period 1875-1878. Most of the correspondence is by Batchelor and is in his hand. The remainder is in the hand of a secretary. The letters relate primarily to the electric pen, the phonograph, the telegraph, and the telephone. Some of the correspondence refers to the removal of Edison and his associates from Newark to Menlo Park. At the beginning of the book is a patent caveat by Batchelor for a Roman-letter stock-printing telegraph. Among the recipients are Thomas H. Batchelor, George H. Bliss, and Robert Gilliland. There are also numerous letters addressed to the journal, English Mechanic. The book contains 296 numbered pages and an index. Approximately 70 percent of the book has been filmed.

Charles Batchelor

Private Letters

From Aug 9th 1875
To

& PLUM,
Stationers
anufacturers.
Newark, N.J.

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ADDED BY E.C. BODSEY -

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Newark, N.J.
August 9th 1875.

The object of this invention is to transmit & record Roman letters upon chemically prepared paper over several wires at a distance for the purpose of reporting the price of stocks, Gold, etc.

The invention consists in the combination of a clockwork for giving motion to the chemically prepared paper with a number of recording points, wires, or Styluses. A number of polarized Relays placed in the various circuits, the tongues of which connect & disconnect the current from a local battery with the recording points.

The invention further consists in the method for stopping & starting the clockwork by a polarized electromagnet operating an unison device.

It further consists in the method of forming Roman letters & Arabic numerals

2.

by the transmission of positive & negative currents by means of groups of perforations in a strip at the transmitting station which currents give motion to the tongues of polarized relays placed in several circuits which open & close a local circuit connected to the recording pens.

A further consists in a device for preserving the chemical paper in a moist state.

I will now describe the various devices.

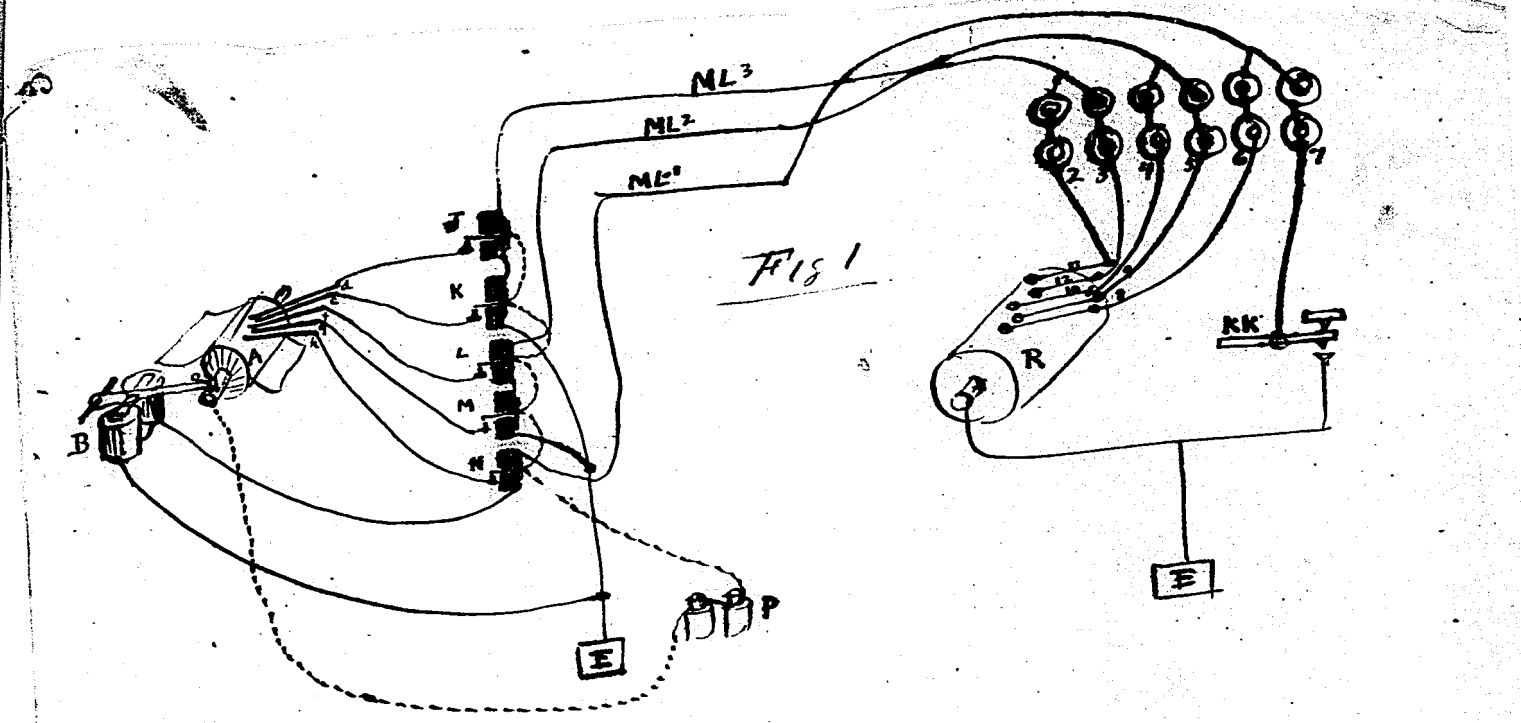
In Fig. 1 A is the drum which serves to carry forward the chemically prepared paper upon which the Morse characters are to be recorded by chemical decomposition. This drum is rotated by clockwork & constructed in the usual manner with the exception that one of the shafts which rotates slower than the drum A is provided with a worm or cam whereby the clockwork is automatically stopped after A has made a certain number of revolutions should the lever of the magnet B fail to arrest its rotations by coming in the path of the pin C. D E F G H are the recording points, typified

preferably with platina needles, upon the chemically prepared paper. D F & H are placed slightly in advance of E & G the former recording by positive currents sent on the various circuits containing the polarized relays, J K L M & N, & E G recording on negative currents which immediately follow the positive ones & vice versa.

The decomposition of the chemical, on the moistened strip is effected by the current from a local battery P. The negative pole of which is connected to all the tongues of the polarized relays, whilst the positive pole is connected to the drum A.

The polarized relays J & K are placed in one circuit ML 3 & are so adjusted that when no current is passing over the circuit the tongues are not in connection with their contact points.

The relays L & M are placed in the main ML 2 & their tongues also do not connect with their contact points. The relay N is placed with the releasing magnet B


ML3
ML2
ML1
J
K
L
M
N
A
B
E
P
R
KK
E
Fig 1

4

in the third main circuit ML'
its tongue remaining in the same
position as the other relays. In this
position the local current from P is
broken at all points & no marks are made
on the chemical paper. If now the first
portion of a Roman letter is transmitted over
the circuits ML 2 & ML 3 the currents will
be negative & the tongues of the relays K &
will come in connection with their contact
points & put the recording points E & G in
connection with the battery P recording a
portion of the letter, immediately the negative
current is discontinued the tongues of K & M
fly away from their contact point & at the
instant the marks made by E & G have
by the rotation of the drum A reached a
point just opposite the points D F & H a-
series of positive currents are sent over ML
ML 2 & ML 3 & the tongues of J L & N which
do not respond to the previous negative current
come in connection with the contact points
placing the local battery in connection.

with D F + H recording another portion of the letter & so on until the letter has been recorded. I will now describe the meth which I adopt to transmit positive & negath currents from perforated paper, R is the drum which serves to carry the paper forward, resting upon the drum are five contact rollers No 13 is connected to a battery 2 with its positive pole to the line ML³, No 12 is connected to a battery 3 having its negative pole to the line ML 3., No 9 + 10 are connected to batteries 4 + 5 with the poles connected as 2 + 3 to the line ML² while the roller 8 is connected to the battery 6 whic has its positive pole connected to the line ML¹. The battery 7 has its negative pole to the line ML¹ + is connected + disconnected by opening + closing the Key K K. The current from this battery acting on the polarized magnet B serves to start the clockwork in motion: In fig 2 is shewn a Roman letter formed of groups of holes the passage of which under the rollers upon R will readily shew the

manner in which the alternate positive & negative currents are sent.

The drum R may either be rotated by hand or any suitable source of power.

I will mention that the polarized relays might be dispensed with & the recording done direct from the batteries 2 3 4 5 & 6 & a number of recorders connected in circuit a sufficient amount of current being leaked off through the earth or by means of derived currents to record the letter upon several instruments.

Or the chemical paper might be dispensed with altogether & the levers of the polarized relays massed together over the drum A & provided with ink wheels inked by an inker disk or in any suitable manner could be made to record in ink instead of their levers closing circuit & recording by chemical decomposition.

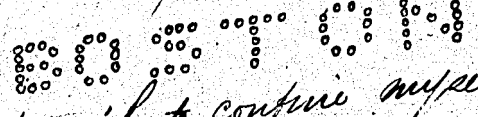


Fig 2.

I do not wish to confine myself to any particular number of circuits as the

employment of an additional circuit will allow of the use of two more recording pens & consequently more perfect Roman characters can be formed -

I claim :-

First :- A clockwork for moving chemically prepared paper released by an electromagnet or polarized magnet in combination with a number of recording points, polarized relays, & local batteries all arranged & operated substantially as set forth.

Second :- The combination of a number of circuits in which are a number of polarized relays operated by positive & negative currents in combination with a number of recording points massed together in the manner set forth for recording Roman characters or other characters for the purpose set forth.

Third :- The Batteries 2, 3, 4, 5, 6, roller contacts 8, 9, 10, 12, & 13, arranged & operated substantially as set forth for the purpose specified

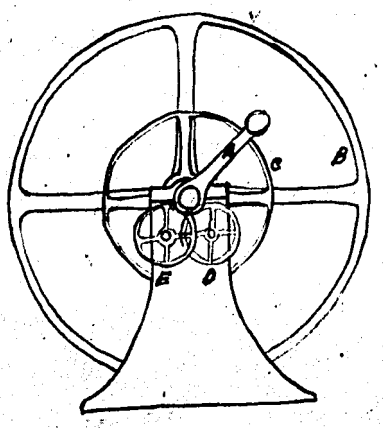
Fourth :- Battery 1, Key KK, Magnet B, arranged & operated substantially as set forth for the purpose specified Charles Batchelor

Newark, N.J.
Aug 14th 1875

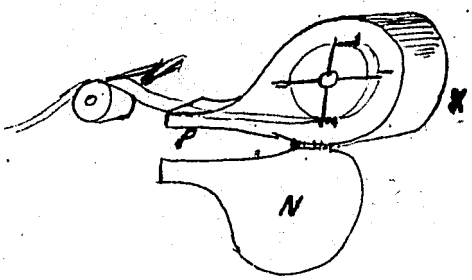
To Editor English Mechanic.
Sir
Answer to.
Query 2304 A. Young Moulder
"The fly wheel must be about six feet diameter & a weight of rim equal to about the weight of a round rod of iron 3 inches in diameter, & in order to reduce the friction & the bearings as much as possible the shaft must rest on friction wheels running loose on studs outside the frame as in sketch. A is the handle B the flywheel, C the driving pulley, D + E the friction wheels there must be a pair of friction wheels to each bearing
"Batchelor"

Editor English Mechanic.
31 Lincolnock Street
Cov. Garden
London W.C.

Chas Batchelor
16 Ward St
Newark N.J. U.S.A.


C
B
E
D

Newark N.J.
Aug. 13th 1895



S W Lerrell
Sir

X is a tin box in which is placed the reel of paper (wet) N is cover secured to it by a hinge P is the mouth through which the paper from the reel inside passes to the recording instrument. Enclosing the wet paper in this way prevents evaporation.

I have no one interested with me am ready any time send me notification & I will send check

Yours.
Wm. Batchelor

S W Lerrell
Jamaica L.
New York

16 Ward St Newark N.J.
Aug 18th 1875

To the Editor English Mechanic.

Sir

In answer to Query 23150 of E.M.J. Page 547. would say if not too late.

Probably you are using a high resistance battery with low resistance line & spools. Make the resistance of your battery equal to the resistance of the line & spools either by using Bunsen or Leclanché or else by connecting your gravity batteries for quantity as it is termed. The greatest effect is obtained when the resistance of your outside line is equal to the internal resistance of your battery

'Batchelor'

Cool Methods

9 Tavistock St
Covent Garden London W.C.

Newark N.J. U.S.A.
Aug 20th 1875

To the editor "Telegraphic Journal."

Dear sir

In No 59 of your Journal July 15 1875 I find a system of Quadruplex Telegraphy described by Mr. Kempse which is a modification of that invented by Stark of Vienna. Now I have tried every one of the so-called devices for the transmission of two messages in the same direction at the same time described by Dib Schellen, Blavier & others including also Mr. Kempse & will say that not one of these will allow of the transmission of a single word, & a very small amount of experimenting will make this evident.

It seems to me to be a real shame that such theoretical devices are put in

Mundal telegraph works to be
brought out against future inventors
as an evidence of priority
Respectfully Yours
Chas. Batchelor
Mount Street
Newark N.J.
USA

16 Ward St
Newark N.J.
Sep 8th 1875

Dear Tom.

Yours rec'd & glad to get a line from you In regard to the press I think you could do something that would pay you well & as soon as we can get it established here I will write you & let you know what we propose to do. We shall try to form a company on it here, but in the meantime manufacture & sell what we can we shall exhibit it at our Newark Industrial Institute & the New York state fair this fall. I am busy working up my new Stock quotation tele-graph printer I think we have secured a man who will furnish the necessary funds to do all we need. We work all night experimenting & sleep till noon in the day, We have got 54 different things on the carpet & some we have been on for 4 or 5 years. Edison is an indefatigable worker & there is no kind of a failure however disastrous affect him, He stands to day the foremost inventor & electrician in this country by far We have applied for 40 x 20 feet space in the Philadelphia Centennial Exhibition next year to exhibit some original inventions. We shall have a great many things in & if we get a medal it will be for something original.

I am sorry to hear of Miguel Dearman. It seems to me that he must have very little grit to be still working as a common mechanic. I left that business nearly 5 years ago with the intention of never entering it again except for my own pleasure & benefit. I thought & know by this time that manual labour commands the smallest smallest profit, & he that can fall back on it is the best man to branch out & see what he can do in other directions. Tell Cousin Jim exceedingly glad to hear of his improvement & wish him every success. Our chuckey is progressing well but the heat bothers her a little. Rosa is well & sends her best love to all. Our kind love to Maria & children. & believe me

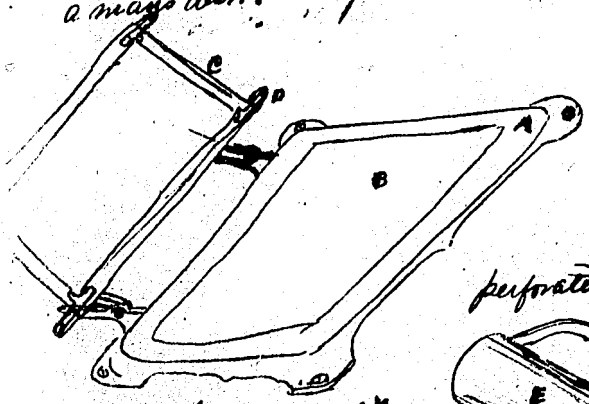
Your affectionate brother
Thos. Batchelor

Thos. Batchelor, Esq.

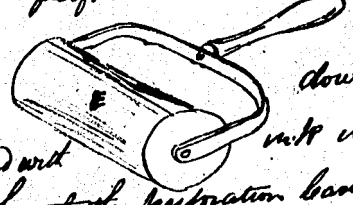
Sep 18th 1875.

Dear Son

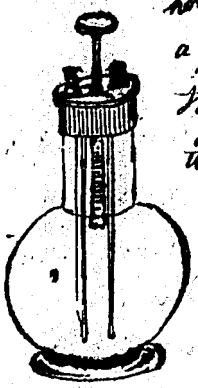
I write to give you a little better description of the press. We have sold agencies for 11 of the states & are hunting up reliable agents for the others. Our press consists of an electrical writing pen, an inking roller, a press, a battery, nuts & bruel. Our pen is a small electrical engine with a holder about the size of a good thick pencil down which runs a needle which is made to perforate the paper as you write like sample & there is no difficulty in writing with it. The engine is run by a cell of battery made in a nice shaped glass bottle & is an ornament on a man's desk. The press consists of an iron frame A with wood plate B let into it & hinged onto the frame is a light frame C with springs on the corners to hold the paper that is perforated. A sheet of paper is placed

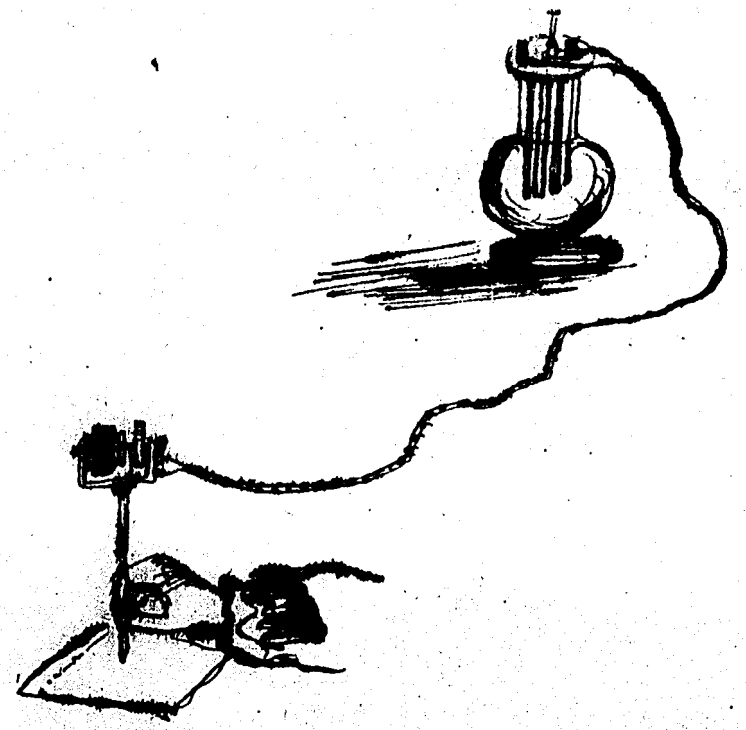


on B & the frame C let down onto it. The roller E made of cloth & filled with nuts is now passed over it & the ink passing through the perforation leaves a fac-simile of



of the copy written this can be repeated an indefinite number of times. The battery I have used is about 6 inches high & now I will try & draw the pen on a separate sheet & the manner of holding it. The railroad companies here seem to have a great deal of reduplication & I think we shall supply them all also merchants, lawyers & Insurance Co. want it bad. I've drawn the engine a great deal too large it will give you the idea that it is cumbersome but the whole thing weighs less than 4lb you know I'm out much as a draughtsman, & you can get an idea from it. We sell it here for $30 giving our agents 33⅓ per cent that is about the price of a copying press here. We have not come to any arrangement yet about foreign countries We have thought that our best way would be to sell it right out as there is considerable trouble in working a foreign country, however we are in no hurry yet. Love to all. Charley





Sep 19th 5

Dear Harriet.

Thank the Bunge see. am glad to hear you are in good health. How is baby is walking & talking yet. Why you certainly can not have heard of the precocity of the youth of America, Why she talks Greek & Latin! She's very lively & healthy.

We are getting along very nicely at present always busy & that makes things go well. You seem to have an idea that I am getting rich over there but you must remember I am only just on the track & it is all in perspective, the track is very narrow in some places & a great many fall off. If I ever am rich it will have to be by my own hard work & I'm bound to do a good deal of that whether I get rich or not. Summer is over here & it begins to feel cold again. Our house is very warm in fact it is a wonder it has not made Rosa & baby sick as the thermometer averaged about 94 all summer both night & day however we shall get out before next. Rosa has good health but it might be better I think she works too hard but she will keep at it.

Love to all Your affectionate Brother Charley.

Sep 21 1885

Dear Dad.

You will have received my telegram & you no doubt think we are about gone up. but you need not be afraid about that our last 2 meetings have been slim & it made us feel blue but it has awakened us up to the fact that we have got to look after the members & that they will not come to us I want to know when you will be here as we are making preparations for a meeting in earnest now as we have pooled long enough send us by mail all the papers & anything else you have, relating to Co-operation, dont fail as until we see you or receive something to go by we are a little at sea

Batch.

PS We are now thinking over more effectual means of reaching the working classes & are going to pitch in in that direction.

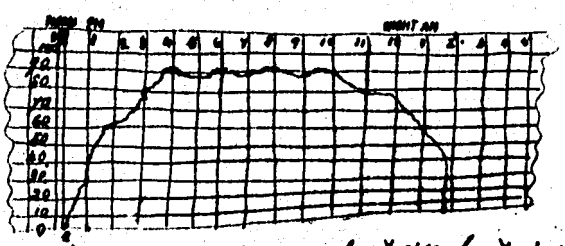
0000037

Sept 25th 5

Dear Jim,

I received a letter from Annie a short time ago for which you must thank her for me. I was glad to hear from home that you had moved again for the better. I think the way you are rolling your stone, it must gather moss. It all depends on the way of rolling it whether you gather moss or knock such proverbial philosophy into a cocked hat. I sincerely hope you will do so well. Am glad to hear your family are well. Annie told me Harry was here but as yet I have not seen him I hope he will call for I can show him round New York & the adjacent cities so that he will see more than if he stays alone. I tell you I have got my hands full at present very busy all the time. Now Jim I have invented a little thing here which I am taking out a caveat for here & I want you to ask some good Engineer there about it see if such a thing would be valuable It is an Electrical Recording Steam Guage that is an instrument for an office which denotes & records on paper the pressure of steam that is carried in the boiler & the boiler may be 20 feet or 10 miles away it matters not It also denotes the time stopped & is very

cheap & reliable. There is one difficulty that I see in the way & that is that it is an instrument that can be done without like a pill & a shirt. I don't think there is so much money in it out here where you know they are so reckless that they have nigger sitting on the safety valve to keep them down, but over there I think they would take. The record would be like this in pencil mark:—



showing in this case that there was no steam at 12 noon but by 4 PM he got it up to 90 lbs & kept it there about till 10 PM when it gradually went down till at 12 NIGHT it was about 70 & at 4 AM nothing. Now you see the proprietor of an establishment can see at a glance in his office whether his engineer is crowding on too much steam or whether he lets it get too low at any time. What do you think of it

Remmember me to all & believe me

Your affectionate Brother

Charley

Oct 4th 1895

The Editor of the English Mechanic'

Sir,

I could suggest a few points in regard to 'Punches & Dies' for punching out metal that are valuable to anyone using or about to use such tools. Such information cannot be got in books but must come from experience. In making your punches & dies always take into consideration the following:—

1st The shearing of the punch & die
2 The direction of the shear
3 Stripping the stock from the punch
4 Punching stock thicker than the width of punch.
5 Sharp corners
6 Play between the punch & die.
7 The Hardening

1st By the 'shear' of a die I mean the 'bevilling off' of the top of it to make it

2

higher in the middle than at the ends so that when the punch comes down, & the stock is thin, the middle is cut through before the ends begin to cut. If this is done a great amount of the work is taken off the tools & press. In all cases where you want to use the piece punched out & keep it straight the die should be sheared but in [illegible] cases as holes & punching the segments of wheels out where it is not necessary to keep the punching straight, it is good to shear the punch. The thicker your stock is the more shear you want.

The direction of the shear has a great deal to do with the preservation of the tool, in this way, suppose you had an oblong piece such as is shewn in middle of die in Fig 1 it would be right to make the highest part of the die run in the direction of the dotted line AB & the face bevilled down to the sides CD, but in the case of an irregular figure such as shewn in Fig 2. the line of shear right

3

to be from A to E parallel to a line C which passes through both extreme points of the end of the figure & bevelled off to the points D & E If the line of shear was straight across as in Fig 1 it would draw the metal over at the fork so as to break the punch at F or the die at G in a very short time. This very plainly shews itself in punching stock ¼ of an inch thick.

In punching out work always use a stripper, that is, a piece of strong sheet metal fastened to the die in such a manner that the punch works through a hole made in it, & at such a distance from the die that the sheet ~~metal~~ to be punched can be put in between it & the stripper. After punching the stock will hold fast to the punch & as the punch leaves the die the stripper takes it off again

If the stripper is not made right it is a fruitful cause of trouble. In irregular figures it should always be made the exact shape of the metal in the die

4

so that every point round the punch will have its own stripper. If this is not done whenever there are cuts or weak places in the punch it will surely break them off.

Be careful never to punch stock thicker than the smallest width of your punch. It is better to leave more stock on those parts & take it off afterwards by other means as the punch is very liable to break with the first dozen.

Sharp corners should never be made in a die except in punching very thin sheet metal.

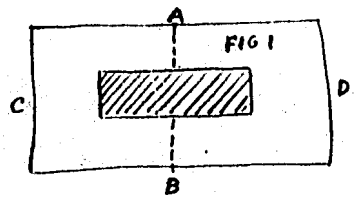
In punching thick metal the punch should never be fitted close into the die, for thin sheet metal this does very well & is necessary but for stock $\frac{1}{8}$ or $\frac{1}{4}$ thick there should be plenty of shake. I have known a punch for punching skates to have $\frac{1}{32}$ of an inch play all round it when placed in the die & to work without the slightest trouble when a

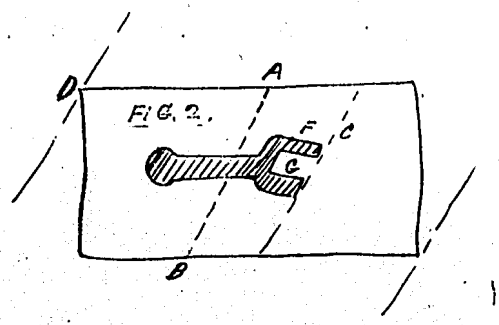
punch fitted snug for the same purpose could not be induced to cut out more than a dozen before it broke.

If the punch is smaller than the die the punching will be always the size of the die on one side the size of the punch on the other.

In hardening always make the die harder than the punch, in fact for thin soft metal the punch need not be hardened at all & even in hard heavy metal the die should be drawn to a light straw colour & the punch to a blue. It is always easier to make a punch than a die & if any thing gets wrong the die will stand & the punch break or be spoiled. The punch will work just as long practically as if hardened & drawn to a light straw

6





Oct 4 0

Alex Morten Esq

Sir,

The note I addressed to Dom Tel Co in regard to an order from the Sup-
-erintendent of the Co. was written as Mr. Brown had told me that you were so sick that it was likely you would not be able to attend business again & I could not have a requisition as there was no one there to give it I said in my letter that, I should require a requisition, or an order in writing from the superintendent, which means that if you were not there to give a requisition I should require an order in writing from some officer of the company. There was no necessity to construe this any other way

Yours Resp
Chas Batchelor

A Morten Esq
act Sec
Domestic Tel Co
N. Penn Ave Chicago Ill

Nov 13 5

To the Editor English Mechanic.

Dear Sir

There was exhibited at the New York State fair this fall, an ingenious instrument for the 'Reduplication' of letters, diagrams or other written matter, by means of which a thousand or more of copies can be taken from a single handwriting. It consists of an electrical pen & battery therefor, a press & an inking roller

The electrical pen consists of an ~~ordinary~~ electromagnetic engine (very small) which drives a needle through the paper as you write at the rate of 3500 punctures per minute & so constructed as to be as easily handled as an ordinary penholder. A sheet of fools-cap is written on with this; every word of the writing being composed of a number of small holes. The sheet is then fastened by spring to a frame the size of the paper & hinged to an iron plate. Another sheet of paper is then placed in the press & the frame with the punctures in [illegible] letters [illegible]

The inking roller, saturated with an ink that does not soak into the paper, is then rolled over it & the ink passing through the punctures, leaves an exact fac-simile on the paper underneath. This can be repeated as often as necessary. A letter can be written with this pen & copied on the press, as fast as the same thing can be done by the ordinary copying press. The battery used for the pen is an ordinary 2 cell bichromate one & is so arranged as to be an ornament to a man's chest.

Batchelor.

Dec 9 5

To the Editor of the English Mechanic

Dear Sir

I intended to have sent you some account of further experiments with our new force but Dr Beard has got it all so fully in the Tribune that I thought I would send you the full letter of his. The Doctor has been with us night & day for the last week & the experiments have been conducted with the utmost regard for accuracy.

Yours Resp

~~Chas~~ Bachelor

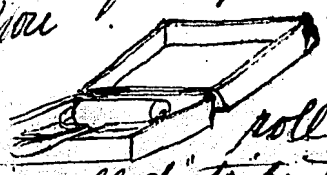
Editor
English Mechanic
31 Tavistock Street
Covent Garden
London.

Dec 9th

Dear Tom,

As I promised [illegible]

I have sent you by Express [illegible] unit [illegible] express for fear you would break something. I did not send one piece which we put in with it here & that is a distributing box as I should have had to have sent you two one for each kind of ink You can however make them yourself they are plain boxes like this you



open the lid & pour a little ink in & then roll the roller in it till it is well distributed all over it you would of course want one for each kind of ink [illegible] want to hold the [illegible] pretty [illegible]

if you get it all right it ought to [illegible] as you can use it. A little practice will enable you to [illegible] even the first copy good. [illegible] afraid of [illegible] he has [illegible]

always tell what is the matter with it. You will be able to tell when your battery is run out in this way take a piece of paper & rub it on the fluid in the porous cups & if the solution is yellow it is good but if it is a greenish black you must clean it out & make a fresh one. Always lift up the battery after using.

I am sorry to say that Mr Edison has made arrangements with a Mr Glynn of Manchester Conn & given him the refusal of the patent for Canada for fifteen thousand dollars or three thousand pounds which refusal he holds till Jan 4th 1876 & I think as he has not yet got the patents I know he will have it extended a couple of months. Let me know what you think of it & whether you think it can be sold for the three thousand pounds. If so & you think you could get a customer your commission would be one thousand pounds or all over two thousand. This is of course for all right & title & patent papers for Great Britain & Ireland. Write me immediately on receipt of this what you think as we are receiving letters from a man in London who wants to take on commission & sell here for us but we want to be clear of everything as if we had no one to look out for our interest he might be getting [illegible] hundred pr[illegible] [illegible] ing me

thousand there. I cant give any definite author-
-ity till I know Mr Glyn's time is up & then if
you were to try & sell of course we should make
an agreement with you that you should have
the sole right to sell all patents title etc in Great
Britain or Ireland for a specified time the con-
-ditions being that we clear £10,000 or £2000 gold
from the proceeds of sale. If you dont think you
will do anything with it let me know.
Will send you a few photographs soon of the
whole apparatus.

P.S. I have just got some Photos & send
you a couple. Kind love to all & wishing
you may have had a happy new year
when you get this Meanwhile

Your Affectionate Bro
Charley.

Jany 6

N. C. Miller Esqr

Will you be good enough to supply me with a statement of our affairs at the Dry St. As I am thinking of selling my interest in the concern I must know exactly how I stand with away

Yours respectfully
Chas. Batchelor

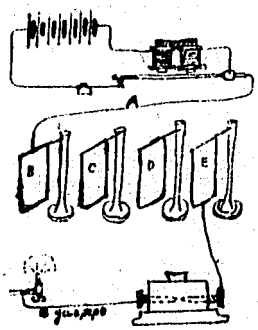
Jan 7th 6

To the Editor English Mechanic.

'Ether Force.'

Sir, A curious experiment relating to this new manifestation was tried by us this week showing the air space it will traverse & also that it wants surface to pass off from, instead of points, as in ordinary high tension static electricity A is a wire leading from the generator B, C, D, E are sheets of 12×9 tin foil hung on insulating stands. The sheets B & C are twenty six inches apart; C & D are forty eight inches apart D & E are 26 inches apart; the wire A is connected to the sheet B & the sheet E is connected to one of the graphite points in dark box the other point being connected with the ground through the gas pipe; notwithstanding the space between the sheets we received sparks on the points of graphite in the box, although only at intervals of a some seconds of time

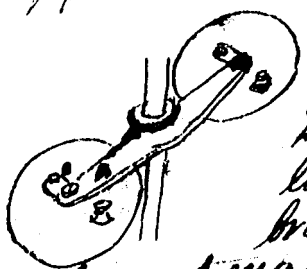
'Batchelor'


B
C
D
E

Feb. 8th

Dear Tom.

Your letter received. I have delayed answering because I heard Mr Gloyn's firm had accepted the proposition. I have been waiting to see if it was true or not and still do not know. I have sold my interest in the business in the United States & Canada. Still retaining my foreign interest & managing the whole thing until they can find someone else to intrust it to. I have so many things to attend to that & continue to run that would take up more of my time than I could spare. I have appointed agents for China & Japan & sent them their first shipment. I am now working a point to introduce them in South America. Your sample sent was written very good & you evidently handle the pen well but the printing is not such a success. Your ink wanted mixing well & a little more rolling with less ink at first will make better copy. I send you some samples of specimen

by parties using the Fan only a short time
You are evidently using only one
cell of your battery. perhaps the


japan is not scraped off the under
side of bar A where it connects with
link B or it may be that the
brass piece on top of the carbon
does not make good connection. You have
extra carbons put them in & see if they work
I send a few samples. We have selected
a place to build a laboratory at Menlo-
Park on the Pennsylvania R.R. 24 miles from
New York and 15 from here. The building is
going up fast I shall buy a piece of land
and build a house too I think during summer
The patents for Great Britain will be all se-
cured by the 10th in shape of the 'Provisional
Protection' & first cost. All other payments
must be paid by the parties holding the
patents at the time they are due.
Mina had a little girl Feb 5 at 10 PM &
as soon as we are all straight you can
count on us for 'Cabinet pictures' in exchange
In regard to your coming out of engagement
in Spring I will say my prospects are good
at present & if I should be able to throw
any thing in your way You may be sure
I'll do it ~~Respectfully~~ Yours as ever
Charles

Feb 21st 1876

Dear Tom

Yours of 4th
to hand and would say that if you
would not like to take the agency
yourself, for a part or the whole of
Gt Britain. I think I can do better
with parties well known to me in Lon-
-don than Mr Salmon. All present
expenses on patents are already paid.
We have nothing to do but get a res-
-ponsible party to sell them. I have
averaged 3 a day already this month
& when I get my printing & ad-
vertisements out I expect to average
10. I think I told you that I
had sold out my interest in the
United States & Canada.

I consider Gt Britain to be worth more than United States and it is a question with me, whether, in the event of your not taking hold of it, I should not come over and start the thing a going. I have already got China & Japan started with good reliable agents but it will take four months before we can do any thing more with them as we have to wait that long before the first consignment is heard from. I am now working to get an agency established in the West Indies and South America.

Affectionately Yours
Charley

(Mother & both girls well
CR)

Menlo Park
Oct 29 1876

Dear Tom

Yours of the 13th received, I was very sorry to hear of Mr Holmes death, he must be a great loss to the family. I rather thought from your former letters that you did not think seriously of going into the press business. We are still held till about May 6th (I think) but will look at contracts again as soon as I get to New York, but I have prevailed on Edison to not extend the time anyhow and on my showing him your letter he decided that I had better take steps to appoint you as our general agent for Great Britain. Accordingly I now offer you the appointment if these parties should fail to sell the patent and shall send you some papers, which you can be selling, and when the time of the contract is up I will call

you to go ahead or stop (as the case may be) if the former, then you advertise yourselves as General Agents for Great Britain and I will follow the cable with letters of appointment and everything necessary; We now think there is a great deal more money in it this way than selling the patent. When I took hold of this ~~the~~ we had had a general ~~agent~~ manager for this business and when he left we were selling 1 in 2½ days on an average This was Jan 13th, We now average six per day and always increasing, sometimes I sell 10 to one man, I sold 12 to the Mutual life Ins^co of New York If you could sell the patent outright after you had the appointment it would be all right, but if you work up a trade of say 10, 20, 50, or 100 machines per month, the price of patent would increase accordingly

As you see by enclosed paper we intend to raise a company of £1,000,000 of which £100,000 is to be paid for patents in U S & Canada. Four months ago before we had sold any, we would have sold these same patents for £15,000 of course any one buying the British patents could have them manufactured just where he pleased. You had better use the strong solution as you cannot run too fast. We have made many improvements since you got yours notably a guide for needle bar and a new roller which takes first impressions with about one tenth rolling

Yours as ever
Charley

Remember me to Will Coolum
look out for a letter in a few days

Mr. H Batcheler
112 Market St.
Manchester
England

Menlo Park. N.J.
Apl 26 th. 1876.

Robert Gilliland Esq Hudson. Mich.

Dear Sir.

We have begun to turn our pens and consequently have resumed specie payment. Though our sources of information which are entirely incomprehensible we have gathered sufficient information to justify our minds that our little Union Square man is a failure, and as such it is not improbable that we shall be [illegible] again at [illegible] of May [illegible] getting rid of numerous [illegible] that if paid would amount to a considerable sum. We intend to make the [illegible] movement the largest [illegible] ever made. Edison is sticking pretty [illegible] and helping him at shop. [illegible] we will soon be all right. [illegible] getting all [illegible] [illegible] from a [illegible] on the [illegible] that.

Chas. Batch [illegible]

New York
P.O.B. 3207.

Menlo Park, N.J.
May 9th 1876

Dear Sir,

I were glad to hear I said I should and told you to stop as we have sold the English patent here just the day before the option expired. We have since put the other European countries into the same parties hands and no doubt we shall soon sell them. To tell the truth I was a little sorry to have to tell you to stop as it had got so near the time that I made sure I should be able to put it into your hands. I think you could have made considerable money out of it. We are now in good trim and will shortly have something else good. We are 24 miles from New York and I go & come every day. I am just beginning to get things to rights in the house but since I came here [illegible] painter

[illegible] Ella, she was a little scared night
[illegible] it is [illegible] lonely here but I quiet her
[illegible] by keeping a big Newfoundland dog
two smaller ones and a seven shooter
under my pillow nights. Its a beautiful
country place where we live and we all
feel considerable benefit from the change.
We are 5 years married tonight.
I asked father & mother to come out
here to the Centennial I wish you would
persuade them to come I am sure it
would do them good and they might
never have a better chance
I have 4 men in the Centennial
Love to all from

Your affectionate Son
Charley.

P.S.
Are you out of pocket any
by this trip Tom?

Menlo Park
Nov 6th 1876

Robert Gilliland Esq
Dear Sir

Your note of $1200 dated Feb 8th nine months, held by me falls due Nov 8th. Endorsed on back of same is $222 received, which leaves $978 — This with interest added $51.35 makes $1029 ~~85~~. The note is made payable at the Mechanics National Bank Newark N.J. If you will notify them of your desire to pay same you will oblige

Yours
Chas Batchelor

P.S. In our last note you desired me to get the interest from the company, but of course although charged against you, you know I have not got it and may have to wait some time. In this note I have added the interest in as I am sure you will not expect me to wait till the pen Co gets money ahead before getting it. Would like to know what you think in regard to my statement of Nov 8th Edison says he will give me a 3 month note for his share 2/3. I have already paid one of Ed's notes of $200.00 + also Price's bill of $96.00

C.B.

copied by pen

Menlo Park
Nov 4 1876

Friend Spice,

You asked me this afternoon whether I would go in with you on the Holly machine as you said Benjamin wanted to. The principle I think is first rate & if the experiments prove as satisfactory as I think they will, there can be a great many sold. They can be sold & made a great deal cheaper than glass & I should think would prove a great deal better. Now in regard to going in with you what does it include? what does Benjamin propose to do? & what would you propose for me to do? If we can come to a satisfactory arrangement, I would go in as I know there is money in it. If it is as good as we hope for, it would have to be patented abroad

Yours
Chas Batchelor

Robert Spice
231 Bridge st
Brooklyn
NY

Nov 9th 1896

Dear Father

I received a letter from Harriett today in which she told me about your slight attack of weakness a few weeks ago. Now my opinion is that you only want a change air for a time & if you will come here & stay the winter or until you are better I will pay all the expenses I have plenty of room & we are right out in the country 24 miles from New York I should advise you by all means to give up business & study to recuperate & if you have not as you think quite enough money to live on I pledge you my word I will do what I can towards helping along, I think I could manage £50 per year & more if times get better It seems to me that you ought to study your own health now, you have been working for the interests of others for 30 years & I dont believe they would do anything for you if you worked 30 years longer. But in any event you ought to get a vacation & come here, that in my mind would set you up amazingly. Tell Tom I have got something new & will write him as soon as I have tried some more experiments with it

Your affectionate Son

Charles

Dec 28th 1876.

Dear Tom.

Yours of the 6th received Glad to hear we are all in the same mind in regard to Father. I think it would be a great deal better for him if he could be induced to give up & lead a quiet life at home. I am not afraid that any one will get ahead at present in regard to running sewing machines by electricity. It is a very difficult subject to handle. During the last five years I have made more than 50 different applications of electric engines (every one of different principle) to running small machinery & I also know from experience

2

that all the patents taken out during that time for improvements in such engines are worth nothing, although in some cases there has been an immense amount of talk spent over them, in fact all the improvements made on Electric Engines during the last ten years you can value by calling it one, whereas to make it a successful motor you want one hundred. It is a well known fact that we do not get in practice more than ½ part of the power given out by a battery, now if we can find some means whereby we can utilize the whole why then you can talk about Electric motors, but until this is done or partly so, or some new

3

principle found out Electric motors will be a failure. Of course this does not apply to motors of very small power such as the pen' and those used in telegraphic printing Instr. but for sewing machines, printing presses, etc. I have been working on a new principle for the last 3 months and I must confess I have not met with very much success although I have succeeded in making a Wilcox & Gibbs machine stitch 131 stitches per minute through 8 thicknesses of cloth right along through the day with 3 cells of ordinary Bunsen battery. This of course is nothing great, but I do not know and cannot tell for certain for some short time whether I have

the principle applied right.
The power derived from an electro-
magnet is the most deceptive thing
possible, and in this country has
been the means through which some
big frauds have been perpetrated.
I am glad you are connected
with us and hope you'll make a
little out of it. Is the Mr Chas Milne
the gentleman who used to live near
St Luke's Church? Much obliged for
the names of his friends. I just
sent 12 to Dunedin New Zealand
to day. Mr Ireland has sent us
2 batteries out by steamer and they
have arrived but I have not got them
yet. We have started a new en-
terprise here in the shape of the

American Novelty Co' which we got up with the idea of working a great many of the 'little things' that we should otherwise pass over in our experiments; many of them when worked are very valuable. It is a regular organized company of 50,000 shares I think it will be very successful I have another very good thing which I have already secured, but have not had time to do any thing more than the first experiments It is a new Holtz machine for the production of Statical electricity After it is out I believe I can sell one to every college & professor in the world. It is a new application.

Yours Charles.

Jan 15th 1899

J T Murray Esq
Newark. N.J.

Dear Sir

Your receipts for sixty two $\frac{50}{100}$ dollars from Home Ins. Co. of New York, thirty one $\frac{25}{100}$, from the Merchants Ins Co. of Newark and thirty one $\frac{25}{100}$ from the Manufacturers Ins. Co. of Newark which you will find enclosed. I presented to Mr Edison and he requests me to tell you that it is not these receipts that he wants but the original policies themselves

He also wants you to send up a large box of that paper same as the one sent but thinner if you have it

Respectfully yours
Chas Batchelor

Jan 17 1899

Mr Osmond
650 E 12th St New York.

Dear Sir,

Mr Edison of this place desired me to write you concerning a shaper having received information from Mr Gilliland 20 New Church St that you were looking for such a machine. He has such a machine in first class condition with swivel vice which cost him $200 he will sell for $150. He has also numerous screw machines, milling machines, lathes, drill presses, etc etc, that he does not need owing to his having given up manufacturing, they are all in first class condition and of best quality

Yours respectfully
Chas S Batchelor

P Morgan and Co

Jan 23 1877

E H J.

Edison requests me to write out following enter in book & we will sign if necessary when we come in —

Resolved that E H Johnson be and is hereby appointed Secretary Treasurer and General Manager of this Company for a period of one year from Jan 1st 1877 at a salary of one thousand dollars, (provided the net profits shall not be less than that sum,) and ten per centum of all the net profits over and above that sum. It being distinctly understood that if the net profits do not reach one thousand dollars the said E H Johnson will take what profit there is (if any) in full payment of his salary. It being also distinctly understood that if there should be no profit at all during that year the said E H Johnson will set up no claim for salary during that year

Yours

Batch.

Jan 30th 1897

Dear Tom,

You know that about two years ago we organized the Domestic Telegraph Company of New York on the Patents taken out by Edison and myself (jointly) we worked the company till the stock began to have a value and a chance offering we sold our stock to a few persons connected with one of the large telegraphic companies who wanted to control it. Now it has occurred to me that if you think any thing could be done over there with it I would send you a complete apparatus so that it could be shown and if you think any one could be got to form a company on it we would take out our patents there and work it up. I send you full particulars by next mail

Yours

Charles

T H Batchelor
Manchester Eng.

Jan 31st 1899

Robert Gillespie Esq
Hudson Mich.

Dear Sir

Your note for twelve hundred dollars with interest for twelve months payable at the Mechanics National Bank Newark. N.J. falls due Feb 8. 1284.00

As yet we have received no money from the Western Electric Mfg Co except the five hundred dollars on the tools but we have promise of it on the 3d so that my regular monthly statement will be delayed till after we receive it. Mr Bliss has decided not to supply Dayton and Co with dresses at all unless they pay our bill consequently we received from them the money for the last C.O.D. which they let lay and I think they will pay up in fact they will either leave it or go out of the business

Respy yours
Chas Batchelor

Feb 3rd 1877 69

To Mr. H. Batchelor Esq.

Manchester. England.

Dear Joe.

I send you a circular of the Domestic Telegraph Co. also a little squib taken from the Newark Advertiser about the Mechanics National Bank (the bank where I do business) who have one of the boxes in their bank and as you see profited by it.

It is now a valuable acquisition to the business men of New York and other cities owing it.

The apparatus works thus:- If a subscriber wishes to summon a messenger he presses down a button on the box and lets go the button then goes back to its original position, the effect of this is to ring a bell in the central office which calls attention to the recorder; this recorder expands the box by running a few inches of paper out of it on which will be found the mark corresponding to the number of the box, say 144 thus: [— - — — —] the long mark at the commencement being the same on all records whatever the number.

DOMESTIC TELEGRAPH LONDON 144

Almost any number of boxes can be connected with one recorder at the office but we find about 300 the best number as, if we have many more there is a possibility of two different people pushing exactly at the same time. If the box button is pushed twice it gives a double record which here denotes that the police is wanted. If you think any thing can be done and any money made I should like Jem to have a hand in it also

We have also another very good thing at present and that is an 'Electrical Horse clipper' by which one man can do the work as quick as two do it now by the most improved machine.

If I send you these 'Bonnesas Telegraph Posts' I can send you in same box it will cost, an electrotype of the cut you see in our book so that your Mr Wilson can use it for letter heads or advertisements.

Do you think there would be any difficulty in using the wires over there, I mean do you think there would be much opposition from anybody. In New York we just put them up and trust to 'Providence' never asking permission except where absolutely necessary, and many a time when I have been refused (by a man owning a certain building) permission to put an insulator on his house I have gone on the roof the next building and put it on, I have never known a case where they threw it off after you had once put it on. Do the wires have to be laid underground in London?

All well at home. Love to all. Would like to know what the folks at Cheetham Hill are doing

Yours as ever

Charley.

Feb 3rd 7

Joseph T. Murray Esq
Ward St. Newark, N.J.

Dear Sir,

I have some prospect of getting some parties in London to take hold and work the Domestic Telegraph and if so should want to get the instruments of you for them

These parties have plenty of money and will push the thing lively if they take it.

I want to know what you will charge me for a Recorder, two boxes, one back point relay and about one hundred rolls of paper all nicely packed in case for shipment abroad.

Please answer as soon as possible and oblige

Yours respectfully
Chas Batchelor

Feb 7 1877

Thos H Batchelor Esq Manchester Exp.

Dear Tom,

Can you inform me what the Electric Writing Co are doing as we have heard nothing from them lately? Are they selling largely. In regard to the 'Domestic' you might put yourself in communication with parties in London Paris or anywhere you think it could be worked to advantage or sold. What has become of Harry Collens, perhaps he could do something in Liverpool, if Dremenda right he holds some city office does he not?

Yours as ever

Charley.

Menlo Park N.J. Feb 11 1877.

Tiney. F. Butler Esq

Havana Cuba.

Dear Sir,

I write you to see whether you think the 'Domestic Telegraph Co' as used in New York could be used to advantage in Havana.

Mr. Edison and myself were the patentees of that system and we formed the company in New York some three years ago, we received an offer for the controlling interest about one year ago and sold out to a party of gentlemen who are now running it in connection with one of the large telegraph companies here.

The service consists of Messenger, Police and Fire. A small box is placed in the subscribers office connected by wire to a central office, on this box is a button which if pressed down once brings a messenger ready to go anywhere or do anything for thirty cents per half hour; if pressed down twice it brings a policeman, and if three times it notifies the fire department.

This has grown to be of great value in New York and other

cities of the States that we should find it very inconvenient to do without them.

It is a very simple system and cheap and I should think could be run to great advantage in Havana. I have just sent a sample set of instruments to London and another to Paris in both of which I think we shall be able to put it up and get it working. If you should think favourably of this I will send you full particulars and details of the system and method of working.

Respectfully yours
Chas Batchelor
Menlo Park
N.J.

Menlo Park N.J. Dec 31st 1887

Robert Gilliland Esq. Hudson Street.

Dear Sir,

Yours of the 8th received. If you could possibly let me have two or three hundred on that note it would oblige me and help me out during the time you mention. It is now two months since we turned over the goods to the Western Electric Co and Mr Bliss assured Edison & myself that the balance of the money would be paid before the end of January. On this of course made promises to our creditors, some of whom now talk pretty rough. Later we received a letter from Mr Bliss to the effect that the money would have been paid but they had not got your signature to a certain paper which they sent to Edison & myself and then to you regarding the payment of the money to me. Edison now has a letter from Bliss dated Dec 6th in which he says you are disposed to have another small payment made and that you want the balance to rest a few days. Why cannot this money be

paid at once so that I can get rid of this disagreeable task of putting people off that come after their money. Mr Bliss then said that they should remit for the stock turned over in New York which is a very small item but as yet we have seen nothing of it.

In regard to the $2165 1/10 Cr to Gilliland & Co how could I put it in any other way? I had overpaid them that amount and I never had anything turned over to the company to compensate for it.

Yours respectfully
Chas Batchelor

Feb 21 1877

Robert Q Mulaney Esq
Hudson Mich

Dear Sir

Your welcome letter arrived this morning with inclosure of three hundred dollars to be credited on note (which has been duly done) I received another payment of $624 84/100 from the N & Niag Co today. I shall go to Chicago I think monday night and will call at Hudson on my way. You will hear from me again before I get there. I saw Bliss in New York today and he told me that when I was in Chicago he would arrange it so that I could have a final settlement with them I shall bring a statement along with me. Bliss says all the Dayton money is safe. Ed has had pretty hard work at Church St owing to his orders not being filled

Respectfully Yours
Chas Batchelor

Menlo Park N.J. Feb 26 1877

E H Johnson Esq

52 Broadway N Y

Dear Sir

Mr Edison agrees with me that if, as you say, you can get a loan of $500 dolls or any other reasonable amount on (700) seven hundred and fifty shares of stock or sell that amount of stock at that price, and it is not advisable to sell the company's reserve at that price. he will hand over along with me and yourself (250) two hundred and fifty shares of stock each to raise that amount of money. The money to be used by the company to pay bills and as the manager shall see best, Edison, I, & yourself having placed to our credit. one third each of the whole amount used by the company, to be paid as soon as the company can from the profits

If I do not see you again do as you think best and rely on Edison and my shares when we return. If you want any info or mucilage write to Chas Edison at Menlo Park

Respectfully Yours
Chas Batchelor

Menlo Park Feby 26 1877

G. H. Bliss Esq
220 Kinzie Street Chicago Ill

Dear Sir

In regard to the letter you sent me from A. Cox of Sycamore Ill I think he is somewhat mixed, if he will get the official Gazette of the United States Patent Office of date August 8 1876 he will find that patent No 180 857 was granted to Thos A Edison for autographic printing it has six strong claims, on reading which I think he will see wherein he infringes our patent

I shall have some copies of the patent in a few days, when I shall send him one

Respectfully Yours
Thos A Edison
per Batchelor

Menlo Park N.J.
Feb 24 1877

Wm. B. Wood Esq

Dear Sir

Mr Edison in answer to your letter of the 23rd requests me to say that a very good illustrated description of 'Bells Telephone' occurs in the Scientific American Supplement of Feb 10th 1877

Respectfully yours
Chas Batchelor

Menlo Park Feb 27 1877 87

Dear Jim

Yours enclosing cards of the twins to hand. Please accept our thanks. I enclose in this one of our baby. Emma has got quite a big girl over three years old now and this one is no chicken they are both in very good health and very fat; we are thankful to say the Doctor makes very little out of us. The Pen business is assuming large proportions far exceeding our expectations. We have given up manufacturing them ourselves, that and the selling in this country and Canada being done by the Western Electric Mfg Co of Chicago. Edison and I still hold control of all foreign countries and we are now making an arrangement with some prominent men here to take the foreign interest and work it up properly paying us a royalty on every pen sold and a percentage on all the extra parts, we do this because the French and Austrian patent laws oblige us to manufacture in those countries in side of 12 months after date of patent issue. Their intention is to make their European headquarters at Paris with branch offices at all the other large cities. The South American trade will be supplied from New York and the China Japan and Australian trade from San Francisco.

I leave here for Chicago to night on this business stopping at Buffalo & Detroit.

We have lots of new things coming on and if we can get this arranged all right I shall be free to go into them

Yours

Charley

Robert Gilliland Hudson Mich
Thos A Edison Menlo Park N.J.

Dear Sir

Enclosed find statement of our indebtedness and resources at this date. In the indebtedness you notice besides yourself and Gilliland. Manning Freeman whom I have repeatedly written to for statement without success but it is somewhere in the neighborhood of the amount I have put down. The $53'44 to N. Emfy Co is a new bill to them for some stock and furniture turned over to them after the regular transfer was made and also for Blessin's time and expense at Chicago which I have had to pay him for. I had a settlement with them for the other 3 bills and with the money I have paid all the debts but the 3 above named I have at present a cash balance of $440'06

Respectfully yours
Chas Batchelor Manager

Copy to each

Mexico Feb — Mch 26th

Messrs Wilmer & Cooper
Publishers New York

Gentlemen,

In ordering the August Mechanic to be sent to me here, I ordered the numbers to commence Jan 1st and the party in your place & action I paid the money to me that I should receive the back numbers all at once. I have yet not got them and you commence by sending me No 622 dated Feb 23. Please have the previous ones of this year sent to me as soon as possible & oblige

Yours Respectfully
Chas Burchelz

Menlo Park N.J. Apl 4th

G. H. Bass Esq

Merchants Exch Chicago Ill.

Dear Sir,

In answer to yours of March 29th to Edison would say that Gen' Peters can merely sell the rights as an agent and by no means create the sale of scalene.

Mr Edison has not given his views definitely as yet but we are now talking it up

I should very much prefer your having control of the rights for my part

I will write you further on this matter in a few days

Yours respectfully
Chas Batchelor

April 27 x 93

C. H. Bliss Esq.
Gen Mangr. Chicago Ill.
Dear Sir

Yours of the 21st enclosing copy of Kellog's report received, as also copy of contract complete for which please accept thanks. I have read carefully Mr Kellog report and am glad to see his disposition to make them perfect. I have spent two nights on the English pens and fixed them. We get them off tomorrow. I find them succeed better than the last and a little more time I think will bring them up to the mark. They do not run as fast as they ought but I consider that objection will be removed by the centres being made right. When the ~~centre~~ backpoint is made to fit tapering as these are the magnet pulls the armature with considerable force against that centre screw, causing great friction, hence it must not fit, but bottom.

Mr Kellog must be mistaken about the ~~sandpaper~~ for those that have come to the office lately are not lacquered nor polished. Furthermore they have a burr left on them from screw machine, I believe they were furnished by us in that conditions but you profess to have finished them, as also the centre screws he speaks of. The press springs you got from us were just from tempering, in putting on the press the man ought to notice whether they touch in right place.

I will enumerate what I no[illegible] English pens for your own pen and guidance, [illegible] may have

rectified some of them already

1 Cam cuts off contact a little too late

2 Guide still too wide

3 Tube full of nickel salt want cleaning out.

4 The cam on shaft a little rough on points as it cuts the clip

5 Tube points a little rough

6 Bottom core is almost always away from the armature when the other is touching

7 Back centres do not bottom

8 Magnet still stands crooked.

9 In adjusting the pen put the cores as close to the armature as possible without touching

Respectfully yours
Chas Batchelor.

Menlo Park N.J. Apl 11 1877

Geo. H. Bliss Esq

Kinzie Street Chicago Ill

Dear Sir

I have just completed for Edison two new pens worked on a different principle one of which I send to patent office today the other I shall send to you after I have tried a few experiments with it If they are as successful as I think they will be, it may be possible you will make some. They would not cost above half the amount the other does

Respectfully your
Chas Batchelor.
Co to Edison

Menlo Park N J Apl 12th 1877

L. W. Serrell Esq

Chambers Street New York

Dear Sir

Enclosed please find check for $25 in payment of fees on French patent as per your letter handed me by Edison yesterday

Respectfully Yours
Chas Batchelor

Menlo Park N.J. Apl 15 1887

T. A. Edison Esq
Orange Street Edison —

Dear Sir,

You will remember I was
I should like to see it very much but I cannot
possibly spare the time at present to come up
It is possible I might write to find someone
that would go into it; but you know I have no
money myself to put into it.

I am very busy and never not give every time to
anything but my experiments. Business knows
bright the prospects look. I have slipped out of
it three or four times and in each instance lost
money, and I consequently feel that my time
is adding up new things not individually capital
for them! I should be glad to and have if he
is a friend of yours, in any way you think I may.

What are you doing at Orange?

Kind regards to Jack & his & believe me
Respectfully Yours
Chas Mackenzie

Apr 21 19 00

Dear Will,

Yours received. Edison studiously avoids having anything to do with anyone else's patents as he is chock full of new ideas all the time, and has not time to bring them out they are so numerous. In order for me to help in the matter I should have to see it, & thoroughly understand its working before I could talk about it. Sorry to hear you have such bad luck here. I know things are very bad here at present but they are bigger west I was out in Chicago, Detroit & Pittsburg during the first part of March and I thought things were generally better there than here.

Don't you think you could do better west than in England? You said to me once you could get a job on the Directory work why don't you do so and ride the hard times out? If you intend to go on the 25th call on you by at the office 20 New Church St. I have nothing to send at present.

Yours truly
Chas Batchelor

W. T. Johnson Esq.
63 Mechanic St
Paterson, N.J.

Dear Sir,

Did you understand that Edison wanted to have the alterations, put on the larger machine, as far as was practical. Whenever you thought we did not want them for it. Edison wanted you were the man, so that he could see it on the parade before the others are finished. He said to the man he thought he could get the same pace for.

Of course you could not have the tank made larger but I mean such other alterations as are wanted in your boat in shape

Respectfully yours
Chas. Batchelor

Such matters strung so I know they are in want of them now & large order can easily be got during these two rank boxes.

C.B.

Sept 22nd.

Mr H Barker Esq. Worcester Mass.

Dear Sir,

Yours of the 3rd to hand. I am glad to hear you are all settled so comfortably at Steamdown. I have never been there but should judge from opinions of other persons that it is one of the most beautiful spots in Worcester. We are having some very fine Spring weather and the Country begins to look splendid.

As "Gardner Sounder" you sent me the circular it was of no value to us there are lots of such patents and we have had twenty say hundreds of such devices during our experiments the last few years. What we want and are looking for is something radically different to a thing we never expect to get in any other way than by hard experiments. I was much obliged for your sending it and should like you if it is not too much trouble to send any circular you may find that you think is new in any line.

Did you ever get the little book I sent you on the Centennial Exhibition? I have sometimes thought that it was lost as you never said any thing about it.

We have just got out a new pen, it runs twice as fast, on a gravity battery (which means practically that you can have your battery in cellar and renew every four months or so) and is about as little trouble to get out of order as an ordinary pen. It is a good thing and I shall send you one if I find any on hand when I come.

The Domestic Tel. System and once started would go well in London etc, I know how very difficult it is to start anything of the kind there from the experience some of our New York men had with the Exchange Telegraph Company. They seem however to be going along nicely now. It matters not how good a thing you have, it requires great perseverance to put it on a good footing. When we started the Domestic in New York we had no money to help us, I made all the instruments and superintended the companies affairs and many a day have been out in the wet stringing wires across the buildings all day and all without any pay but so that we could get the company into a condition where the stock had a value. It was just the same with the Pen at first I could not give them away but gradually people began to see the use of them and now they sell 150 every month in the U.S. and Canada & I have orders from almost every part of the Globe

Love to all from Rosa & myself. Emma & Rosa are in excellent health

Your affectionate brother
Charley

April 29th

Mr. Chas. Waterhouse Esq.
Llanrhaeadr N. Wales.

Dear Father,

In one of your letters mailed one feel assured you will eventually be gratified at Marcia's get away from the land of Gorgons and I have no doubt in a few days time you will feel so reinvigorated in health and spirits that you will be amply repaid. By that time the troubles of the last few years will be forgot & gone.

From the letter I had from Tom I should judge you had got a very nice place and comfortable, but as Tom say £300 — is a good deal of money. What are the taxes, and what do your taxes and interest on Mortgage amount to in the year? I have a Mortgage of £600 on my house here for which I have to pay 7 per cent per annum, in fact a mortgage is an institution which the American can dispense with, the price not being a farm if it has not a mortgage on it, that apparently giving it its value.

We are all in good health & as for me.
Rosa joins me in sending her love to mother and the girls. We hope to have a very satisfactory arrangement here with Carter who will take the Electric Plu + work in foreign countries on Royalty

Your affectionate Son
Charles.

Apl 28th

Boston Hoveson Esq.
39 Mechanic Street.
Paterson, N.J.

Dear Sir

Mr Johnson must have misunderstood me in our last conversation concerning your loom. I said if I knew it was a perfect success I could not go into it myself as my time is entirely occupied at present bringing out other inventions of an entirely different character

Respectfully Yours
Chas Batchelor

May 2nd

Western Electric Mfg Co

Chicago Ill

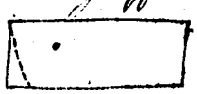
Gentlemen,

I have just completed testing the last fifty pens sent & 21 new armat. sent last week by you for shipment to England.

I notice that the cam clips on all of them has too much play. This ought to be attended to immediately as although I have adjusted them so that they work well now, after three months work they will give a great amount of trouble. I made a note of this fault before, but these are far worse than former ones.

The current should cut off when the armature is one third on the core, you must adjust them so that they cut off only when the armature has got full on the face of core.

The nuts on the platina pointed are too tight.

The pens are put in boxes too tight and on getting them out are very likely to injure. This can be obviated by cutting off one corner at one end like this:- as shown  by dotted line.

Work generally is greatly improving

Please attend to above immediately

Respectfully Yours

Chas S Peterson

Mess. Munn & Co.

37 Park Row

New York

Gentlemen

Enclosed find check for $3.20/100. Please send me The Scientific American for one year commencing with last week's number and oblige

Yours respectfully

Chas Barker

May 5th

To Mr Otto Eigler Mechanic
21 Tavistock Street
Covent Garden
London, W.C.

Dear Sir,

I send you a cutting from the New York Tribune which explains the working of a new 'musical telegraph' invented by the well known electrician Thos. A. Edison. See it he applies his 'electro-motograph' as a receiver, and by its use he is enabled to transmit and receive any note however high or low.

'Astor'

Keep your
Edward Batchelor
Menlo Park
N.J. U.S.A.

May 6th

Electro-Chemical Mfg Co
52 Broadway
New York

E. H. Johnson Esq
Dear Sir,

I wish you could let me have a little money now and then on my bills. I am getting frightfully hard up. I have not a cent to call my own & don't know which way to turn to get a little. Please let me know if you can relieve me a little. Did I not understand you to say we had no contract with James but only an agreement not to sell at a lower figure? And what consideration does he give for this contract? Have you fixed any thing with Bliss before his departure? Please answer above and oblige

Yours
Chas. Batchelor

May 8th

Robert Gilliland Esq.

Hudson, Mich —

Dear Sir

Yours of the 3rd to hand. Enclosed find statement of your account with the Edison Electrical Pen and Duplicating press Co. Dec 30th, as you see, it was $203-$$, but Ed has had on your account $27 79/100 and he has also accepted for you Barnard's bill of $48 25/100 which of course leaves a balance of $127 24/100. The company owes me about $90 00 owing to Edison giving me instructions to pay one of Ed's bills for castings for $193 — he also told me to pay Ed's bills whenever I could, to save him trouble. I told Ed that your account was to be paid next, and as you see $76 24/100 has been paid him, and if it had not have been for this note of his the rest would have been paid. The money for the old bills comes in slow but I suppose it is pretty sure.

In regard to the royalty from the W. C. Effg Co, it ought to have been paid promptly. When Bliss was here last, Edison got out of patience & told him about it, & he had them send him $200 — then, and he promised the rest immediately he got home. If you speak about it I think they would settle immediately.

Edison is continually getting up new things connected with the apparatus. We have just brought out a new pen, which will cost only about 1/3 of the cost of the present one, and numerous other improvements, which are being introduced as soon as the pen completed.

The infringements of Stuart and Hix are in a fair way of being speedily knocked on the head. My time is spent fully on all this sort of work, which as you know accrues for your benefit instead of mine, and therefore I think you ought to try and fix up my note at as early a date as possible for I can assure you I need the money badly.

Edison and I went up to the Papyrograph office to day, as so much had been said about it, & we investigated it thoroughly. Edison wrote a sample as a test (of course they did not know who we were) and he wrote one line very heavy and the next line very small and light and the consequence was that the man tried to get a copy off it, but could not get a good one although it took him 29 minutes to manipulate it before it was ready.

We have an ink now that you write on ordinary paper with, and after writing you can use it in the press as a stencil, and roll the roller over it and take as many copies as you please. In talking over this sometimes Edison and myself have almost come to the conclusion to give away a bottle of this ink with every 'pen'. By that means you see when a man buys an 'Electric pen' he would also get a better process besides, than the Papyrograph. What do you think of that idea?

P.S. Try and do something for me, eh

Yours Respy.
Chas A Batchelor.

Atlantic City N.J. May 10 1897

W. J. Hawes & Co Chicago Ill

Will you be kind enough to send Orleans a Chicago Commercial addition with your advertisement in? Kindly close to May 3rd. Oblige

Yours resp.

B Batchelor.

Feby 13th 1877

Robert Gillieland
Ferrisburgh
Mich

Dear Sir,

A gentleman today was saying he wished he could get rid of a small good engine and boiler cheap, and I told him I knew where there was one but did not know whether it would be for sale.

1 Do you want to sell the engine and boiler at factory? If so
2 at what price?
3 at what price including all steam connections just as they stand?

Answer as quick as possible

Respectfully Yours
Chas Satchelor

Mem. Pain. N.Y.

May 13th 1877

E. T. Gilliland Esq
20 New Church St
New York.

Dear Ed.

The Electric Writing C of London have sent Edison a strong letter about there being (2) two pens and (10) stands (ten) short in first shipment. I supposed you had notified them to that effect and that Bliss would only bill to them the quantity sent.

Have you sent in last lot the extra pens & stands missed in last? They also speak about needles ordered Dec 14th 1876 which order I turned over to Bliss. Have these gone? Please answer immediately & oblige

Yours
Chas Batchelor
For T.A.E.

May 12th 1877

Electro Chemical Mfg Co
52 Broadway N.Y.

E.H. Johnson

Dear Sir

Please send your orders for the barrel of large size ink & box of small sent last week.

Bliss in telegraph & Edison is much put out about not receiving his contract for inks and he wants you to have him one (6) gross ready.

Find out how many you can supply him with & send the order for whatever you lack and we will try and raise the requisite amount to do it

Respectfully Yours
Chas Batchelor
for Edison Mfg Co

Menlo Park, N.J.

Menlo Park. N.J.
May 14th 1877

Geo. H. Bliss Esq.
Chicago Ill.

Dear Sir

I sent the following letter to Mr Barton this day I wish you would kindly see that it is attended to.

Copy. E M Barton Esq.

Dear Sir, Some time ago I wrote you requesting that the business of the foreign pen co. should not be mixed with my royalty account. I again write that request I also stated that Mr Batchelor who has the management of the foreign pen co. would pay all bills on presentation of correct and he informs me that he has forwarded your money within 14 days on account, and has money in bank to pay your bills when they are corrected, he will continue to pay on presentation, I have also to request that you send check for balance due me on royalty as per contract. In the state-

ment you send of sales from Mch 1 to April 30th I notice a deduction of royalty from outfits and parts furnished to the Foreign pen Co. Please state when these articles where furnished, between what dates Mr Barchelor cannot make his accounts and that statement match. I should like to have some explanation on the subject.

I also call your attention to an error of $10 in the footings of the figures

Yours truly
T. A. Edison

By seeing that this is attended to you will oblige Yours Mr. A. Edison

P.S. In regard to Dutt we will see that Mr Beadle is attended to when he arrives here and I have ordered Johnson to send contract right on to you. Edison

per B.

Menlo Park, N.J. May 14 1877

E.H. Johnson Esq

Dear Sir 52 Broadway N.Y.

Make out contract for Bliss and sign it and send it to him immediately

Yours truly

T.A. Edison

per Batchelor

May 20 1

Geo. H. Bliss Esq.
220 Kinzie Street Chicago Ill.

Dear Sir,

Before Mr Butler's departure from New York I gave him all letters received by me from Europe also my answers to same and a short sketch of each party and the relations I stand in with them and also the business we have done with them, for his edification during his journey. I am now writing him a document setting forth all the faults likely to occur in the apparatus & the means of remedying the same, for this purpose I should like have Mr Loughlin make sketches of every part connected therewith which I propose to name & number. Copies of this if you so wish it can be furnished to all agents so that in writing as the parts they will all use one common name or number for the same article. If this meets your view please give E. T. G. the necessary order to have made for me the drawings I shall require. I also intend to give Butler from time to time as I can think of them all the points that I have learned in my experience.

Respy Your
Chas Batchelor

P.S. Luck all right
[illegible]

May. 28th

Geo. L. Brette

Hotel Bison Rue La Fette. Paris.

Dear Sir

I enclose Baily's last letter and order which I have just filled together with copy of letter sent to him —

Also find copy of letter sent today to Lelentoff of St Petersburg Russia

Also find copy of letter of complaints which I wrote the W.C.Co & which you said would be of service to you.

Hope your sea voyage agreed with you and everything is looking prosperous and lovely

Respectfully Yours

Chas Satchelor —

More anon.

May 28th

James Batchelor Esq.
Llandudno, North Wales.

Dear Father.

Just a line to let you see we are all well. We are right in the middle of spring and having nice weather. The country looks beautiful. This is what they call Locust Year here as the 17 year locusts appear this year, and already there seems to be any quantity of them around. We find lots of snakes round here. We have killed no less than 10 Black snakes about 6 feet long already this spring. There is also good shooting in the woods here. Your last letter was marked Newark, Mens. Park is 16 miles from Newark. We have a nice lot of vegetables planted this year. Hope you have got to like your change by this time & that its effect on your health is beneficial. I know it will suit mother and the girls. We have now got the 'Electric Pen' fairly out on Royalty and in a very short time I shall have nothing whatever to do for it except receive my share of Royalty. We are now putting on the wires a machine which sends 6 six messages over the wire at the same time we call it the Sextuplex. We shall put it on royalty. Rosa unites with me in love to mother and girls & believe me

Your affectionate Son
Chas Batchelor

May 28th

C. H. Bliss Esq

220 Kinzie Street - Chicago -

Dear Sir

Since I was in Chicago I have I have sent Wheeler a statement & a couple of letters relative to the payment of the old bill which he promised me should be paid to you as soon as he had straightened out some matters, he has however taken no notice whatever and I can get no answer from him, he has certainly broken his contract we had with him in not paying his debts, if it would not be too much trouble to you would you kindly jog his memory regarding it.

It appears evident to me also that Dayton & Co do not intend to pay their bill can you do any thing for us in this matter?

Respectfully Yours
Chas Batchelor

Menlo Park, N.J.
May 28th 1877

J. T. Murray Newark, N.J.

Mr Gilliland wants $600 – for the Engine and boiler with fixings

Yours
Chas Batchelor

Menlo Park N.J. June 5th 1877

James Bradley Esq
Newark N.J.

Glass will not do in those points
they must be agate.

Yours
Batchelor

June 6th

Edward A Bilby & Co
84 Nassau Street
New York.

Gentlemen,

Enclosed find signed appraisement form. Have notice of freight of same being prepaid. Please pay duty of same and have forwarded bill of costs and I will remit immediately

Respectfully Yours
Chas Batchelor

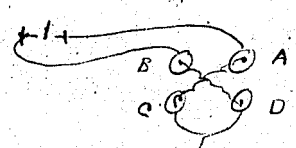
Postal Card June 8th 1877

J Bradley Newark N.J.

Connect 2 inside wires together on engine

thus

A+C connected together by inside wire



B+D ditto

C+D connected together by outside + go to starting break

B outside wire goes to Engine break (one point)
A " " " " " (other ")

Let me know when you are ready for me

Batchelor

June 8th /

To the Editor of the English Mechanic
London. Eng.

Sir,

Can any of your readers explain the following.—

"When grinding a lathe tool at the stone I have frequently noticed that it jars to such an extent as to produce a high note.

If while it is thus jarring you continue to exert pressure on the stone you will find that the hand that holds the other end of the tool feels a burning sensation as if the tool were hot and if you continue to press the heat becomes unbearable, and yet when you take your hand away and apply the end of tool to your cheek there is apparently no more heat than when you commenced grinding."

"Azor"

Respectfully Yours
Chas Batchelor

June 11th.

Mr H Batchelor,

Manchester Eng.

Dear Tom,

Your letter received also a notice from Express Co that the book has arrived I have not got it yet but shall have in a few days I am much obliged to you for it. Let me know in your next what is the expense of same. I am remarkably busy just now as we have just got our speaking telegraph perfected and I am getting some made to go on to the private lines in New York. This has been a very difficult job but it is all right now, we have also competitors in the field in the shape of Prof. Grays who has a speaking telegraph but a very poor one and I know we can step ahead of him.

Mr Preece Engineer of the British Telegraphs is in this country and I sent a day with us a short time since. I am making a speaking telegraph for him and he promised to have it shown before the Royal Society for us. If Mr Geo. L. Beette our man at Paris or the "Sun" calls on you I wish you would give him any information you can in regard to the same.

We will love to all

Trust you have enjoyed that [illegible]

Yours [illegible]

June 12th 1877

Robert Gilliland Esq.
Hudson, Mich.

Dear Sir,

Ed was here this morning and he said somebody had written you that the boiler was bursted and the windows were all out and the sashes broken out. He said you had written him to enquire into it. I went down with him and we made an investigation of which he will no doubt report to you. The boiler is perfect and the engine also. There is however (3) three pipe joints (small) broken with water lodging also the pumps chamber. I suppose a new chamber can be got for the pump and the other three can be got for (5) five cents each. It is true that there are a great many windows broken but I have the glass for them all which I bought to put in some time ago and there is one bottom sash broken in one place. The windows have all been broken by stones being thrown in. The letters received by you that Ed speaks of must have exaggerated very much. The insurance I cannot pay for you till I collect something

Truly Yours
Chas Batchelor

June 30th 4

Gr. G. Hard Esq.
15 Broad St New York

Dear Sir

Enclosed find check for £15 in being amount of arrears of my annual subscription to Society of Telegraph Engineers of London
Make receipt for same and oblige
Yours very respectfully
Chas Bateman

June 30th 77

James D. Batchelor Esq
Llandudno North Wales.

Dear Father,

Just a line to say we are still living. We are having most beautiful weather here, hot sun but cooling breezes all the time, in fact if there is any wind at all we get it. From the veranda in front of our house, you can see almost any time during the clear days, the towers of the Brooklyn bridge, & the prominent buildings in New York 25 miles away. I see from the papers you send me that you are getting a few visitors and judging from the names of old friends I see amongst them I think your time will pass very pleasantly. You told me of the "presentation" in Manchester. That ought to cheer you up considerable, I'd have given a good deal to have been there.

Enclosed find likeness of Emma it is the last we have had of her but we dont think it at all good. I've sent a good many papers lately but dont know whether you get them or no. I myself write in kindest love to mother and the girls and believe me to remain

Your affectionate Son
Charley

June 30th 7

Frank McLaughlin Esq.
New York. —

Dear Sir

The proprietors of the Electric Pen before Jany 1st 1877, desire me now to give an account of the company. I should feel obliged if you could let me have the balance of your account $8.00/100 in order to square up its accounts.

Respectfully yours
Chas Batchelor
Mangr.

P.S. Do this for me Mac if possible you can send check or pay to Henry for me. Batch.

June 30th

Robert Gilliland Esq.
Hudson. Mich.

Dear Sir.

Yours enclosing $500.00 on account of note received duly endorsed on back of same. It came just in time as we were entirely busted for 4th July.
In regard to the royalty on electric pen Edison has received his full amount up to 1st May somewhere about $80— and they have just sent him a statement for the month of May in which his royalty is about $160— But I presume you have received one also.
Did Ed report on the condition of your stock—
I am communicating with Bliss about Saylor and wheeler's account with the old pen Co and after I hear decidedly I will make a statement at present it is in the same condition as on the last statement. I intended to go over the accounts with Ed before he left as he said he wanted to know something about them but he had to leave before I could get down there.
Edison thinks the prices are all right as long as the royalty keeps increasing.
Shall be glad to see you in the fall
Respectfully Yours
Chas Batchelor

P.S. Remember me to Ed.

Mr Henry.

20 New Church Street N.Y.

Dear Sir.

The following sums are owing to the Pen Co before Mr Bliss took it Dec 15 1876 if any are offered for payment I wish you would receipt for same and hold for me.

D & Drake	Newark N.J.	$266.53
Dayton Ward Co	St Louis Mo	313.48
D. H. Greve	New York	6.00
J. Doran	" "	4.30
F. F. Wheeler	Chicago	42.99
J. McKillop & Co	St Paul, Minn.	3.21
C. A. Hoke	Salem N.C.	9.25
Williams & Rogers	Rochester N.Y.	14.00
Frank McCloughlin		8.99

If any of these amounts are presented to you for payment I should feel obliged if you will kindly receipt for same and hold the money for me

Yours respectfully
Chas Batchelor

Mr Greve and Doran are probably selling for you yet in New York I have an order from Greve to Mr Gilliland to deduct from his first commission the amount to Mr Doran also promised his on his first sale

June 30th 1877

Geo. L. Beetle Esq.
Paris France

Dear Sir,

If you should have occasion to visit England soon, and have time to call on my brother in Manchester, he will be happy to give you any information he can, in regard to the Pen, this may be of service to you as he has been connected with it ever since we brought it out. I have enclosed a letter of introduction to him and also notified him that you might call on him

Respectfully Yours
Chas Batchelor

June 9th 1900

152

Geo. Hollis, Esq.
220 Kinzie Street
Chicago, Ill.

Dear Sir,

Will you kindly inform me at what price Mr Johnson agreed in your contract for:—

Ribbon Envelope
Small Lots
Large Lots.

If you think anything can be done with Dayton Bros Co and Wheeler as regards their old accounts please let me know. If you can effect a settlement for us with Dayton Bros & I authorize you to take off twenty five (25) per cent from the face of bill. I am sorry to give you any trouble about these old affairs but these accounts are so far off that it is difficult for us to come to terms as readily as we do not supply them with anything

Respectfully Yours
Charles Paxton

Menlo Park N.J.
July 22 1877

E.H. Johnson Esq Philadelphia Pa

Dear Sir, will you be kind enough to let me know what price you let the Electric Gen Co have the ink & mucilage I want to collect their bill. I should also be obliged to you if you would mail to me if you have them about ½ doz Chem Cos bill heads & bill with, I fixed up singer for you and sent by express to day hope its doing well. Journal of Telegraph copied Pa press article on first page

Yours
Chas Batchelor

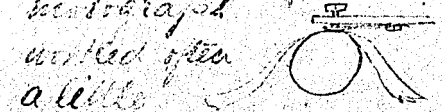
Please fix me on price and oblige

July 19

E. T. Gilliland Esq.
122 Vine Street
Cincinnati O.

Dear Ed,

Your letter and card received. I spoke to Edison about it but he said that the Industrial Exhibition at Philadelphia would use it for some time and he did not see how you could get it at present. He however said you could make one and told me to explain it to you. It is nothing more than a tube with brass diaphragm on end and platina pointed screw to adjust to it and when you sing in the tube received on chemical paper Edison's autograph which you have seen are noted over here we of course get it a little better by fixing the tube and the sounding board of a Dulcimer which stands upright. Edison is too busy to make one at present and if you should decide to make it I will send you more accurate information for your guidance with regard to



I shall be glad to see you when you are here. We have made great improvements since the "Decision" and you will see it when you

Yours Gardner

August 1

Mr. H. Batchelor Esq

Manchester, Eng.

Dear Son,

I have only today got the Bills you sent me; so much for Red Tape in a Custom House. It is just the thing I want, exactly, in my business, but since I am told that it will not be of so much use, I want you to let me know what I can pay for your message and I will send you the money, or if it was got for me Foreign Peas by the next day for it; you can make it in the form of a registered bill & send me in your next letter.

We have exceedingly hard at work since the war on our Pneumatic Telegraph and at last we have got it in good shape and I hope it will soon be in such a condition that it will bring in some money. Two of the United Postal Telegraph Engineers have been in the State for the space of Fifteen, and Mr. Perry spent four days with us, and we just showed him lots of things he did not know. He is a member of the Society of Telegraph Engineers London and knows both Edison & Jay and many other [illegible]

[illegible]

which he is going to have exhibited before the British Association.

We have an infringement case in regard to the 'Pen' by a man named Truman in Manchester, do you know anything about him?

There is a gentleman exhibiting our Singing Telephone at the Permanent Exhibition Philadelphia Pa I shall try and get some papers & send you —

We have two or three splendid irons in the fire at present but they are all telegraphic. The 'Pen business' is increasing very rapidly we have raised the price to 60 and 80 — and they sell more now than they ever did —

I send portrait of Emma, it is not very good it makes her look sickly. Rosa took her to Newark and had a large one taken of her & then she thought she might as well get a few to send away and I suppose she was tired when she stood for this.

Do the folks at Llandudno get along nicely and is Father's health improving?

Rosa desires to join me in sending kind love to Maria and the youngsters and believe me

Your affectionate brother
Charley.

P.S. Send back portrait & send bill because I have no other copy of my picture

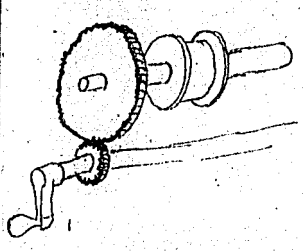
July 26th 77

E. T. Gilliland Esq

Cincinnati O.

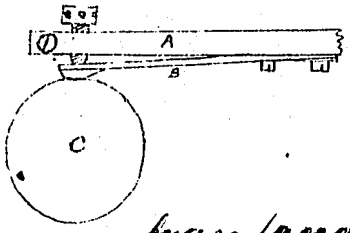
Dear Ed,

Yours of 23rd received O.K. no drawing enclosed but I understand everything from your description. I see you have tumbled to the 'flat down box' I am now making one which is going to be shown before the British Association in England on the very plan there is no doubt it will work. Transmitters 4" long and size of 'pen wheel tubing' is all right, when you have finished your diaphragm rings take an impression on paper of one showing all the holes and send to me and I will make you a few diaphragms of different styles and send you, you will find them far superior to the ordinary thin copper or brass. We use ½ inch paper but the drum ought to be ⅛ wider so as to have margen. the diameter of drum does not matter but I make all one inch and I do not put the handle direct on wheel shaft so: but I gear it up about 4 to 1 so that you have to turn the handle 4 times to drum once so:-

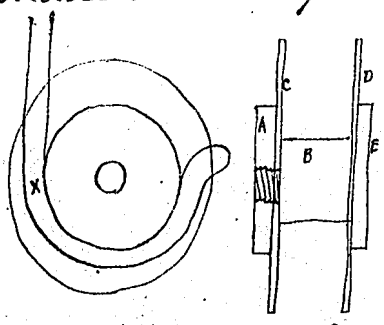


The drum will do nickelplated best & the surface of it is knurled straight across so as to make it rough ~~enough~~ enough to carry the paper along by friction

with the spring, the spring is tipped with platina and is this shape as at B and about ¼ inch wide



A is Brass lever fastened to sounding box and B is steel spring screwed on to the underneath side with a piece of brass faced with platina on the end working on drum C. The pressure of this spring on the knurled drum carries the paper along. The solution we use is common soda water but I will wet up a box of paper and you can keep it in crocks. The paper reel is the same as used by automatic for wet paper and made this way



A is a nut same size as Head E. C + D are rubber (hard) washers B is body where paper is wo on A and C are same thickness as E + D. The reel revolves on the edges of nut and head as at X dont put it on centres as you want a little drag. I would not bother if I was you with the leather covered wheel as it is not reliable for showing, the paper is simple. In making the transmitter have it on a very solid base ~~as~~ I put them on iron bases but I suppose thick wood will do —

Send me print of rings and I will send you diaphragms with paper right away, as for price I guess we can afford that for old acquaintance sake. In the reports of its working I want you to give Edison due credit for its invention and send him copies of the papers, and send me an extra one for my own scrapbook.

I see by your letter you have left the Pri, what do you mean? left Bliss altogether or only got through at Cincinnati.

We have had terrible hard work on the Speaking telegraph this last 5 or six weeks frequently working 2 nights together until we all had to knock off from want of sleep. but we have today got the best speaker in the country and we are making some for Gold & Stock Tel Co

Edison sends respects

Yours

Chas Batchelor

July 26th 7

Geo. H. Bliss Esq.
Gene. Man.
Chicago. Ill.

Dear Sir,

Mr W. F. Wheeler is indebted to the old Electrical Pen Co to the amount of $42.99/100 for goods supplied by them to him under a contract existing between himself and myself. As he has not paid the same and takes no notices of Mr Batchelor's communications I should feel obliged if you would be kind enough to cancel the said contract.

Respectfully Yours
Thos A Edison
per Batchelor

Menlo Park N.J.
July 26 1877

Geo H Bliss Esq.
Chicago Ill

Dear Sir

Your letter requesting this enclosure is dated June 22nd, but as I have not been in N.Y. for about 3 weeks I did not get it till today. Please excuse delay.

We have made great improvements on Speaking telegraph during the last three weeks so much so that we now consider it fit for use and are having some made

Respectfully Yours
Chas Batchelor

Menlo Park. N.J.
Aug 2nd 1877

John Goode Esq
Paterson N.J.

Dear Jack,

I want to know if you could get me about one dozen silk cocoons. I have been exceedingly busy lately experimenting on a speaking telegraph and we have it now perfected. You can send them by mail. Rosa says it is so long since we have heard from you that she thinks Jennie has forgotten us altogether. Can you spare time to come and see us at all this summer?

Yours
Chas Batchelor

Menlo Park N.J.
Aug 2nd 1877

C. T. Gilliland Esq.
Cincinnati O.

Dear Ed,

I finished and shipped to England my telephone with box laid down to day. I had 32 strings in it and it stood on legs 3 inches high it was polished mahogany a perfect beauty. It works excellently so you need have no fear about yours working send me your size of rings as I requested in case quick I will give you some diaphragms that will work bully. Was on it if today, everything lovely

Yours in haste

Chas Batchelor

Aug 6th

Geo H Bliss Esq
Gen'l Mang.
Chicago, Ill.

Dear Sir,

Your letter enclosing Wheeler's State-ment to hand. His insinuation regarding the [illegible] of them from my office is a pretext for avoiding the payment of our bill: I have taken particular pains to ferret out the circumstances of the case and I do not believe they were ever bought in New York at all.

We certainly can make no allowance on them and should be glad if you would consider the contract between him and Mr Edison terminated

Respectfully Yours
Chas Batchelor

Menlo Park N.J. Aug 8th

Frank McLaughlin Esq
New York.

Dear Frank.

Last Saturday night I told my wife you were coming up to Menlo Park with your wife on Sunday. She accordingly boiled another 'kehring' and on you failing to come if she could have got her fingers into your wool she would have added another to the list of bald-headed men in New York.

I want to know if you can give me any information about Wilson the man who travels for the 'Tel' do you know anything at all of his former record and what do you think of his business habits generally. This in confidence of course for my own special benefit

Yours

Chas Batchelor

Menlo Park N.J.
Aug. 13th

Geo. H. Bliss. Gen Mangr
Chicago - Ill.

Dear Sir,

In regard to Dayton and Wheeler's accounts I am sorry to have troubled you so much. I have referred the matter to Edison and Gilliland and shall decide what to do in a few days.

In regard to yours of Aug 1st about Telephone we have now one simpler and much better than Bell's but it will be controlled by the Gold and Stock Telegraph Company.

Respectfully Yours
Chas. Batchelor

P.S. Inclose Daytons & Wheeler's letters.

Menlo Park N.J. Aug 18th

Peter Gilliland Esq.
Hudson

Dear Sir

I am asked that both Dayton and Wheeler's bills are bad debts. Mr Bliss told Edison last December that if Dayton and Wheeler did not pay their bills he would not employ them, as it was in that case only a question of time for their beating him.
A short time ago he asked me to write him a letter asking him (Mr Bliss) to cancel Wheeler's contract with Edison on account of non payment of bills and he said he would either have the thing settled to my satisfaction or have a quarrel with him. He now writes me that he has made a contract with Dayton and Co. which he says he could not think of doing if I had on account of indebtedness. Yours

that his lawyer advises him not to cancel Wheeler's contract. He however says that he shall talk the matter over with Mr. Holland and if the result of them not cancelling the contract he advises me to go to law with him. I told him that we did not make any mention in our contract that he should demand settlement of old bills before new ones were made

The company still has (4) four creditors Williams, Chas Batchelor, N. Edison, & Manning Freeman all of whom can be paid out of the $500 to be paid by N. E. Mfg Co in the last month of present year

When do you expect to come East?

Respectfully yours
Chas Batchelor

Aug 18 7.

E. T. Gilliland, Esq

Cincinnati O

Dear Ed,

I never had any drawings, but look over these. No 6 is the bottom of the box it is 3½ deep A is a piece of oak, divide at one end and 3½ at the other this is also cut down as at B ¼ thick, and the sounding board rests on it. I put in 16 wires and made the bridges close C C.

No 5 is a view on side and shows the manner of running paper through upright arm on drum. The arm is fastened to sounding board. Length and height can be got from other sketches

No 4 a front view. No. 3, 2, & 1, are made from actual pieces

I am making you diaphragms now and you may expect them and the paper early next week

Let me know whether you can make out these sketches

Yours Batchelor

Cuba, 1st

Percy F. Butler. Esq.

Havana. Cuba.

Dear Sir,

Do you think anything can be done in the West Indies with the Telephone. Mr Edison assisted by myself has just completed a 'Speaking telegraph' and we are now introducing them. Conversation is carried on with perfect ease over wires from 100 feet to 100 miles in length. The instruments are exceedingly simple and will work on very inferior lines. We are introducing them on the private lines of the Gold and Stock Tel Co who rent out some 400 wires to parties using between their offices, factories, etc. They are useful for communicating in factories covering large ground, mines, plantations, etc. We place them all on royalty in this country but probably that could not be done in Cuba. The price per pair of instruments (it requires a pair at each terminal) including royalty is $80 currency. I think you could purchase them from us at this price and charge that amount or a slight advance for placing them on the line and a yearly rental of about 100 to 125 dolls for the use of them.

The charges in this country are $25 per [illegible] per year.

We shall shortly have some circulars on this subject and will then send you some
A number of these instruments rented to responsible parties under a contract would give you a steady income
There is no doubt that the majority of private lines in this country (a great many of which use Edison's printing telegraph) will use the speaking telegraph in place of or in connection with the system they now use.
Its low price in comparison with printing instruments will enable parties, who otherwise would not pay the money for printing instruments, or morse operators, to use a private line.
Please let me know what you think of this project and oblige
Yours respectfully
Chas Batchelor

Aug 16th 77 197

Thomas Ryan Esq
Dunedin New Zealand

Dear Sir

I wrote you some time in May relative to the transfer of the Electrical Pen business to Gestetner Esq 20 New Church St, New York but as I have heard nothing from you I presume you cannot have received my note. I mentioned in it that I held a balance to your credit on my books of (£25 6/00) sixty two dollars 6/100 dollars which I shall turn over to Mr Bliss or send you by draft as you shall desire.

I noticed the arrival lately at Dunedin of the Elsinore. I hope the instruments suit you well.

Do you think a system of Domestic telegraphy such as is used in New York of which Edison and myself are patentees would be made profitable in New Zealand in the larger towns it is used in many of our larger towns and cities. I enclose you one of our circulars such as we had printed when we first got up the company it explains the uses of the system. If you think it would be used to advantage I could send you full particulars of the manner of working the system with cost of fitting up etc.

Cuno Mr

We have also got a 'Quadruplex telegraph' on which conversation can be kept up with perfect ease on lines from 200 feet to 100 miles they are being introduced extensively here and in Europe

Mr Edison and myself devote all our time to the invention and development of new ideas and are continually getting out such things as the 'Electric Pen'

As Mr Bliss is now running the 'Pen' business in New York we should be have you communicate with him on matters relating thereto

Will be glad to hear from you

Respectfully yours
Chas Batchelor
Menlo Park
N.J.

P.S. Mr.

... young up ...

Menlo Park N.J.
Aug. 18th 1877
Saturday night.

Dear Charley,

I have not been able yet to collect anything yet and it is perfectly hard up. I cannot get enough to live on. I expect to be better off next week. I have asked twice for money but it has none expenses on the machine & plumbers I guess cleaned him out

Yours
C. B.

Aug 21st

Robert Gilliland Esq

Hudson, Mich.

Dear Sir

Having heard that two Irish men of this vicinity employed last Sunday their time in stoning the windows of the factory I took the trouble to ascertain what damage was done there. I find that out of 52 windows having 624 panes glass in, 6 sashes were broken and 204 panes glass. They have all been done by throwing stones, which lay on the floor inside one stone weighing about 8 lbs. I measured the windows and found it would take just 1000 ft of the commonest kind of lumber to close them up entirely and I think it could be done for about $4 or $5 the labour. Some hay has been carried from that hay shed of Thomas & make beds for tramps and I think if you do not close the windows it will be likely through their carelessness to burn down sometime.

I would like to have a settlement if you possibly can do so, on your note, $300 on $300 have already been paid and the balance $515 63/100. I should very much like to have a I need it much at present.

Respectfully Yours

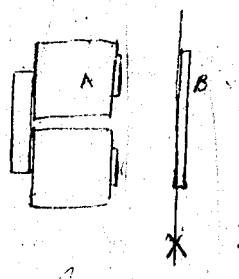
Ira Batchelor

Menlo Park N.J.
Sept 11th 1877.

Dear Spice

Coming home on the train last night I got thinking of your assertion that the magnet worked stronger with thick armatures than thin. I think the difference you get is due to the fact that with thick armatures such as you have got, you weight such a thin fork considerably; now I think you will get the same result if you put on a piece of brass 3/4 the thickness and then 1/4 the thickness of iron, made fast of course so that it can not bend. When I come back I shall try this. I think this will be the best way to try it.

Place a magnet (carefully [illegible]



2
Position laying on table and take an armature B (then) and see how far magnet A will pull it itself. Keep moving the armature back till you get to a place where the magnet is not strong enough to pull it, and make a line X. Now take an armature same length & breadth but twice as thick and place it on the line and see if the magnet will pull it to itself, if it does then it is a pretty good proof that it is best to have thick armatures

Yours
Chas. Batchelor

Menlo Park N.J.
Oct 18th 1877

T. Murray. Esq

Dear Sir,

In the new improvement on the telephones Jim Bradley proposed to split the rubber in the (stiff holders) this however Edison does not like and consequently he will have to make them push in tight like the model.

Edison tells me that you say I never explained this alteration to you or Jim at your shop but only left a letter there for you. He has evidently mistaken you in that respect as you know I left the letter Tuesday night and saw you then on Wednesday morning and at that time you told Jim he had better push it through & I then explained it thoroughly to him

I wish you would set me right in this respect for he infers from what you have said to him that I have lied to him

Yours
Ezra Gilliland

Menlo Park N.J.
Oct 16 1877

W. C. Reed Esq
Pough Keepsie N.Y.

Dear Sir
Your letter to hand.
Our Speaking telegraph is almost perfect now so much so that the Gold and Stock telegraph Co are making a hundred sets They have two lines in regular use and they will soon put up more.
The Gold & Stock telegraph Co are the proper parties to write to in regard to the using of them
Respectfully Yours
Chas Batchelor

Oct 20th 220

Geo H Pelso Esq

Chicago Ills.

Dear Sir

Yours of Oct 5th, 10th & 18th to hand. We have been so very busy on the Telephone that I have not as yet made the interfering attachment. The new coils also has not been made. But you think the bottle that was made had better be given a good trial, and if you conclude it is all right we can make it in one night.

I don't understand what diagram you mean in letter of 18th. I don't remember your showing me any diagram. Please explain.

In regard to letter of 10th please don't forget we have month.

We have worked almost continuously the last two weeks on telephone the difficulty being the minimum amount of induction on the Gold & Stock wires to be worked over

Respectfully yours

Chas Batchelor

P.S. Please send me ~~directions~~ name of lawyer to whom I can trust Wheeler's case.

PS What is price of Bunsen Battery as sold by you?

C.B.

Menlo Park N.J.
Oct 20th 1877.

W. James
New York.

Dear Sir

How do your telephones work? We have made still further improvements which I intend to bring you soon. Let me know how you get along. I have not been in town for the last few days.

Respectfully Yours
Chas Batchelor

Western Union Tel.
Nov. 8th 1877

T. P. Butler Esq
Havana, Cuba,

Dear Sir,

When I wrote you about the Telephone we had some in New York working very satisfactorily, Time has however shown us some defects in it and we are now experimenting with it with a view to make it more perfect. I hope to be able to send you better news in regard to it shortly and probably a box of telephones

Respectfully Yours
Chas Batchelor

Menlo Park N.J.
Nov. 9th 1877

Albert Gilliland. Esq.
Hudson
Mich

Dear Sir,

As per your letter of Oct 27, I forwarded (by Registered letter) your note to Atkins Thompson & Co for payment on Oct 31st. I have as yet heard nothing from them although it has been gone 10 days. Do you know whether they have received it or not? There are a great many more windows broken in the shop now than when I wrote it ought to be done quick

Respectfully Yours
Chas Batchelor

Menlo Park N.J. Nov 4. 1879

Geo H Bliss Esq
Gen'l Mang.
Chicago Ill

Dear Sir
Yours of Nov 6th to hand.
For the last month I have worked incessantly on Telephone and although a small job I really have not had time to make the last attachment. Our telephones made by Murray are very good but it wants something much louder than either those or Bell's to work in the Gold and Stock wires. We have made six or eight new principles, three of which Mr Phelps is now making. Mr Edison's intention to make the telephone that will work under all conditions. Of course you know that the Gold & Stock Wires (owing to the number of wires on the poles and the heavy batteries on them) are entirely different from an isolated wire and when I tell you that between 19th Broadway and 23rd Street it is very different

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indeed to get any thing at all on the Bell instrument you will see the difficulty we have to contend with. Do you not have trouble in Chicago on city lines with it?

Thanks for your attention to our Wheeler bill

If it would not inconvenience you I should very much like to have balance of first instl for I can assure you I am very hard up.

Had a card from Col Battle I see he has got into quarters at last

Very respectfully yours

Chas Batchelor

Mount Pleasant N.Y.
Dec 6th 1897

Messrs Ulmer — 309 Broadway N.Y.

Gentlemen,

Enclosed find check for one dolls. Please make up the dolls as per your letter of Dec 4th and send as soon as possible. I want them for Christmas gifts

Yours respectfully
Mrs Batchelor

Geo. H. Bliss Esq.

220 Monroe Street. Chicago.

Dear Sir.

Your letter of Nov 28th to hand I have not drawn, as I have raised enough to last me a few weeks longer. Thanks all the same. I appreciate the necessity for the getting out of the "Rotary", the cut attachment, and also the hundred copy ink, and have talked the thing over with Edison, and he has decided to start immediately he gets rid of the model telephone which I think will be very shortly now. We tried a new one of his in New York today and got much better results. You probably remember when you were down here about Edison's idea of recording the human voice and afterwards reproducing it. Well we have done it and have today shown it in New York to the Scientific American people who are now sketching the apparatus for a future issue. As a proof that the principle is correct it actually worked the first time we tried it. Wheeler & Mac were very much astonished to hear it speak out. If possible I will get a piece of the record on the tin foil and send you tomorrow.

I am delighted to hear such good news from Europe. I felt sure from the first time I saw Beetle your judgement was sound in selecting him for such an important position.

In speaking with Wheeler today he said that

There were three accounts (for £97, £38 & £400) against me. The last time I saw Mr Henry we settled this matter, as I showed him Gillilan's receipt for £585, and this money I paid him covered two of these bills, and the other £97 of which I knew nothing, Henry said was not my bill, but something sent abroad by E.T.G. & be charged by right to Bias, but if you can get a letter to Henry he can settle that immediately. Mr Wheeler also wanted to know if Edison's account must be charged to me, I would rather this were not done as it mixes my matters so, if you will render bill to Edison of his account, I will get him to give you order on W.E. unless he wants me to take it on mine.

I left with Mr Henry a short time ago a European Directory for which I paid (duty & freight included) £6 5/00 I now have an offer of £15 - for it and if you do not want it at that price I will sell it, have you seen it? & do you want it?

Edison tells me that Herz did not pay those European patents probably he thought them worthless. Well we will see!!!

By the way (between us) I think Herz is not very well liked over there. The Phonograph is going to be a magnificent success!!!!!

Yours respectfully
Chas Batchelor

Dec 7th 240

To the Editor English Mechanic
31 Tavistock Street
Covent Garden, London.

Dear Sir

Phonograph:- Mr Thos A Edison of New York a well known electrician has just devised a method of recording and reproducing the human voice. It has the merit of extreme simplicity and is entirely a mechanical device.

A sheet of tinfoil is made to move in front of a diaphragm provided with an embossing point in its centre, at a uniform speed, when the diaphragm is vibrated by the human voice the ever varying rate of vibration is accurately recorded by indents in the tinfoil; this indented sheet is made to move at the same speed in front of, and in contact with, a delicate spring which is ~~also~~ connected to another diaphragm and to which it transmits the same rates of vibrations under the same conditions and in consequence gives forth the same sounds as those spoken in the first place. It has been exhibited for the last few days in New York and has excited the admiration of many scientific men.

The following sketch will probably explain it better:- A is a cylinder fast on the shaft B, which has a thread on one end that engages in the bearing D whilst the other end is plain and

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slides in bearing C. E is a diaphragm with mouthpiece attached which can be adjusted to and from the cylinder, and having an indenting point fast in its centre. G is another diaphragm made similarly adjustable but receiving its vibrations from a delicate spring H which is in contact with the cylinder when ~~receiving~~ reproducing. The surface of the cylinder A has a groove or thread cut in in order to give the stylus on E room to indent the tinfoil. The operation of the machine is as follows:- The cylinder A is covered with a sheet of tinfoil securely held by a simple device at each end. The diaphragm E is adjusted so that the point indents the paper slightly all the time and as the handle is turned the cylinder revolves and moves forward at the same time, thus keeping a fresh place in front of the indenting point. When the cylinder has received all it will hold, and after the diaphragm E has been adjusted back, it is run back, and the diaphragm G with spring H is adjusted so that the spring is moved by every indent on the record.
Now when the cylinder is moved forward again the plain "How do you do" astonishes every body

After a sheet of tinfoil has been indented it can be reproduced almost any number of

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times and the impressions do not get worn down as any body would naturally suppose.

Some of these sheets of tinfoil after having a sentence recorded on them have been straightened by Mr Edison and plaster casts taken of them In this state the indents made on the foil by the diaphragm form an interesting study.

— Ector —

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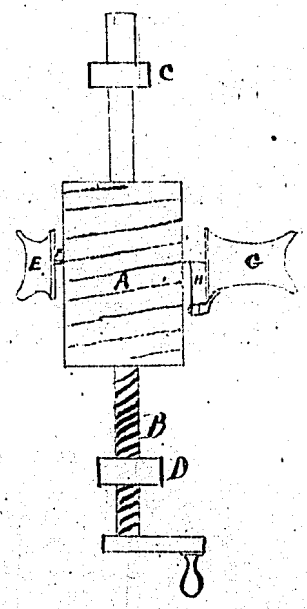


Mens Pave. N.J.
Dec 12th 1877

H. A. Reid Esq
Poughkeepsie. N.Y.

Dear Sir
Yours of 6th to hand
We have at last got a good practical working telephone. I cannot give you any information at present as to how they propose to work it, but as soon as I hear I will let you know. You know of course that the N.Y. Tel Co control it entirely for this country so I dont suppose we shall have any say in the matter at all

Yours respectfully
Chas Batchelor

Dec 26 '7

The English Mechanic
31 Tavistock St
Covent Garden. London.

— An Interesting Experiment. —

A very interesting experiment (in which the water participated) was tried Dec 26 '7 with Edison's Phonograph. It was the transmission of the mechanical talking over a circuit of (8) eight miles. This circuit was worked by Edison telephones. The matter to be transmitted was first stored up on the Phonograph and during the reproduction of the same the telephone was held in front of it. A number of people at the other end heard it perfectly.

Ason.

Dec 29th

Mary Mining Co. Havana Cuba

Dear Sir

There is a small balance on our books against you which I think you ought to liquidate at once, especially as it was made to accommodate you, being advancements, wages etc. Enclosed find statement showing it so.

Our Telephone is now in perfect condition. The Gold Fields have a number working. They are acknowledged by everybody to be far superior to Bell's. I expect to be able to write you more fully on this subject shortly.

Yours respectfully
Chas Barpacker
Mexico Pa.

Dec 29th.

Robert Watson Jr.

Montreal. Can.

Dear Sir,

I wrote you Sept 14th for settlement of this account. Your account of detention of money order by the post office you could hardly expect us to believe and your promise to send it has never been fulfilled. Our Telephone is now a perfect success and is being used by the Gold and Stock Brokers all making extensively. If you propose to have anything to do with this you will please pay enclosed statement or I shall see that all the parties connected therewith and your personal friends know the whole transaction. The parties now call on me for settlement and I cannot afford to pay this myself

Charles Robert

Jan 3rd 8

Editor English Mechanic
91 Fleetwood Street
London

Dear Sir

I send you a cutting from the New York Sun of Jan 2nd 1878 respecting Mr Edison's Phonograph. Since my letter of Dec 7th he has improved the instrument greatly. The sounds are reproduced by the same diaphragm as you speak against and are very much reinforced by the application of a large funnel shaped tube to the mouthpiece. By means of this tube the reproduction of ordinary conversation can be heard distinctly one hundred feet away. The machine as exhibited last Monday was a perfect success; whistling, singing, whispering etc being reproduced accurately, and the more difficult sounds such as the "S", the "sh" in 'shall', the "oo" in 'valor', and all those we found difficulty in overcoming on the Telephone clear and distinct

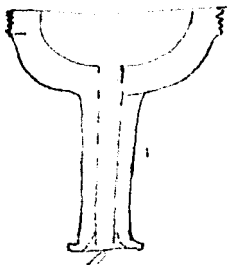
Ever.

Jan 12th

J. T. Murray Esq.
12 Ward Street
Newark, N.J.

Dear Sir,

I have had a letter from the India Rubber Comb Co and he said if possible we ought to alter shape to this, so that he could use less rubber.



which we think favorably of, but have not quite decided on. He said they would cost (1 one dollar each for the first thousand; which is very cheap, as the way we make them there is more than a dollars worth of rubber, to say nothing of the work and polishing. He also says subsequent lots might be cheaper. He said nothing about price of mould but I presume he will let us know that when we decide on the shape. How are you getting along on them.

Yours respectfully
Chas Belcher

Thomas Parkinson

Feb 4th

Western Electric Mfg Co
220 Monroe Street
Chicago Ill.

Gentlemen,

Enclosed find statement of 'Special Tool Account' of 'Edison Electrical Pen and Duplicating Press Co.' as stipulated in your contract with Edison and Gilliland dated Nov 25 1896 that this account should be paid in three annual payments of (500) five hundred dollars each, the second of which was due about Jan 1st of this year

Respectfully Yours
Chas Batchelor
Gen Mangr.

Feb. 14 1878

John J. Crooke Esq 163 Mulberry Street New York

Dear Sir

Mr Thos A Edison instructs me to write you to have you send (50) fifty pounds tinfoil in box (same as sent to him today) to Theodore Puskas Langham Hotel London England, by Baldwin Bros European Express 72 Broadway New York City;

Send bill of same to Thos A Edison Menlo Park N.J. and he will remit immediately by check

Please notify me or him of shipment

Very respectfully yours

Chas Batchelor

Asst to Thos A Edison

Feb. 19th 258

J. J. Cooke Esq

163 Mulberry Street
New York.

Dear Sir,

Of the four samples of tinfoil sent to me I like the thickest the best. I wish you would be kind enough to send me

(50) fifty pounds of tin foil cut same as before but of the following thickness

(25) twenty five pounds same thickness as sample enclosed

(12½) twelve and a half pounds half as thick again if possible

(12½) twelve and half pounds twice as thick

Send it to Thos. A. Edison Menlo Park N.J. by Express also send bill of same.

In addition to the above order please send (25) twenty five pounds of tinfoil same thickness as sample enclosed, and put up in box similar to one you sent to me also same width and length to Prof. Mayer Stevens Institute of Technology Hoboken and send the bill to me

Very respectfully Yours
Thos A Edison
per Batchelor

March 2nd 1878

J. Bergmann & Co.
104 Fourth Street
New York

Dear Bergmann &

We have had a gentleman here for three times who is going to introduce the telephone and phonograph in Central America and the West Coast of South America. Edison makes an arrangement or royalty with him so that he will get his instruments wherever he likes. I have told him that you make all kinds, transmitters, receivers and everything, and also told him that he could not get them made satisfactorily any where else, I gave him your address and he comes down to see you. Show him some good work and don't put the prices any higher than ours. We pay eight dollars for the transmitter, you know price of all and figure on the battery so that you can supply him also with that we use two Watson cells in a place for at each end, send you particulars of phonograph in a day or two.

Chas Batchelor.

The gentleman's name is F. J. Sewick.
Lab.

Robert Gilliland Esq.

Hudson Mich.

Dear Sir,

I have just received the second installment of $100 — on the 100 account from the Western Electric Mfg Co. Here are as of old your creditors of the C.E.L. Co. Edison, Gilliland, Batchelor & Freeman. Meaning Freeman as it may take a few days to determine, etc about the 2nd but he has always charged it to Edison. We are now sorting it out and then I shall make statement of affairs and turn over what balance remains to myself and Edison. Enclosed find statement of your account with the company with check for closing the same for which please send receipt

Robert Gilliland Cr.

	By Balance Dec 31 1876		$203.44
1877	Dr 2 cash 1 C.E.L. Mfg Co	Mch 28	27.99
1877	" " " "	May 1st	48.45 "
March 30	Check		127.20
			$203.44

Respectfully Yours
Chas Batchelor
Geo Manger

Mod 80th

April 16th 8

Geo. H. Beiss Esq

Chicago Ill.

Dear Sir,

In response to Mr Edison's request I send you receipt for making "Edison's Dep. Sol."

(17) seventeen pints Alcohol
5 lb 5 oz Aniline Violet
(22) thirty two pints water

This well mixed makes No 1 Standard Solution.

(20¼) twenty and one quarter Galls hot water
(21½) twenty one and a half pounds Germ Dextrine
This well mixed makes No 2 Standard Solution

(1) one gall of No 1 Solution to (4) four galls of No 2 and stir well before bottling.

In reply to yours to me I think it is impossible at present to do anything on rotary press we have got too many things of so much more importance on hand

Respectfully Your
Chas Batchelor.

April 16th 8

James Adams Esq London. Eng.

Dear Jim. Yours to Edison I hasten to answer. Don't leave them till you have satisfied them in every respect and get as much experimenting as you can for your own information. As regards Edmonds we can not give him a Phonograph as it is in the hands of the Stereoscopic Co. of Cheapside London. but you can do any thing you can for him as regards exhibiting yours. You must go to Paris and put up the telephones in the Exhibition for Puskas. Glad you have got over first difficulty all right. Had a glorious exhibition of Phonograph at Barker's lecture at academy of music at Philadelphia last night I showed it, and I go to Washington tomorrow to show it to Prof Henry at Academy of Sciences. Ellen is well and all O.K. you need not worry about her we will take care of her. After you have put up the telephones at Paris you must wait there till I send you the two clockwork Phonograph's which I am making. Have sent you lots of Papers and send you two more of Philadelphia Academy last night.
I have written Ellen tonight to let her know what you are doing

Yours in friendship
Chas Batchelor.

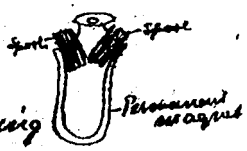
Menlo Park N.J.
Apl 20th 1878

S. Bergmann & Co

I saw one of your first Phonographs in Washington and I cannot say it was anything but good workmanship as the shaft had at least ⅛ of an inch play in the bearings such machines cannot be worked by inexperienced hands and I had the greatest difficulty to make it work myself. The adjustment screws on mouthpiece are hard on head and turned so hard that the slot was all gone and had to be turned with pliers. You surely cannot succeed if you turn out such work as this

Resp. yours
Chas Batchelor

Dear Jim.

Yours received to-day also one to Bland. I shall send you two more transmitters this week and a box of carbons securely sealed in tin cases. We have worked successfully between New York and Washington with telephones and we now fear nothing in that line. Get as much experience as you can and find out everything you can glad you came in contact with Baily of the Gray. Gray has now come out square and makes a regular Bell telephone in this shape 

with mouthpiece to talk against both diaphragms at once it is a most glaring infringement and worse than the Phelps. — I showed the Phonograph at Academy of Music Monday night in Philadelphia at Barnes lecture and it was a great success, he had a pair of Dolbear telephones there and they are the worst you ever saw he has a permanent magnet
with two spools on and a six inch diaphragm on to talk to, I tried to talk with Robinson of N.Y. at 10th & Chestnut but it was perfectly horrible I don't see how he ever expects to do any thing with such instruments as those. Edison & I have been 3 days in Washington and we showed both houses of Congress, the Academy of Sciences, President Hayes and wife and many minor institutions

the Phonograph and we worked telephone from Philadelphia and Menlo Park & Smithsonian Institute Washington. Induction fearful but talking elegant. I have better carbons now none of them having the glow and I send you 50 as perhaps you may want to try some experiments. Leave with Pustins the rest. Our contracts with W. U. Tel Co. are almost complete but we have a telegram today that Orton is dead and if it affects us at all I will let you know, I don't think it will as there are other parties waiting ready to gobble it if they show a disposition to throw us off. Edison has it all arranged for them to pay us our salaries every month guarantees for 17 years but of course they may alter things a little. If you see Jack Wright or Brown get all the information you can out of them for the benefit of Edison you can. Ellen is well and was at our house when I gave her your letter she wants a letter from you even if you have nothing to say Annie is well & Jo McGallagher is working at Edisons' home they sent for him probably he will be able to keep it longer than most of them. Don't leave Paris before you know for sure and remember it is more important to find out everything than to rush home quick. I will look out for Ellen. Look out for things this week

Your Chas. A. Tinker

Rec'd 22nd
May 1st

Commissioner of Patents
Washington D.C.

Sir,

I would like to get the Official Gazette for 1876 and 1877 complete also all numbers for 1878 to date and have the future numbers sent to me. Please inform me how much this will cost and I will remit by P.O. Order immediately.

Very respectfully yours
C. H. Batchelor.

Menlo Park N.J. May 8th 1878.

Samuel C James M.D.
Philadelphia Pa.

Dear Sir

Your letter to Mr Edison was handed to me by him for answer. You do not state in your letter, nor does your brother what this machine or mouth apparatus is to do; but I presume you mean that by speaking into with this machine in your mouth, for every vowel or consonant sound an electric circuit will be closed, which will operate a key provided with letter or number of letters corresponding to that sound and so print on a paper like the typewriter. This may work but it requires a great deal of experimenting to make it perfect. Mr Edison has so many ideas of his own to carry out that he could not possibly do anything in this direction at present.

Very respectfully Yours Chas Batchelor

Mary

H. C. Dawson Esq

Washington D.C.

Dear Sir,

Your letter to Mr Edison relative to the alteration of the vowel sounds on the Phonograph when they are reproduced at a faster rate was handed to me by that gentleman with a request to investigate the same and report to you the result.

After many experiments on the subject with single vowel sounds and with them as they occur in words; reproduced at any speed they still keep their own peculiar sound and do not change into any other.

When you speak the word "farm" slowly, the vowel sound is longer in proportion than any of the other three consonants. Now the raising of the pitch does not alter this in the back, but in raising the pitch on the phonograph you necessarily speak the word faster, thus shortening the vowel more in proportion than the consonants; this makes you think that the vowel sound is distorted, but on close investigation it will be found that it is not so

Very respectfully yours

Chas Batchelor

Assistant to Mr Edison

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Hughes arrangement as an imposition, & I intend to go for them bad. Send help you supplied with the papers and we are collecting our proofs in print and shall forward immediately. Let me see if I cannot refresh your memory:—

Do you remember that Edison took a sheet of plumbago paper while you were with him and laid it on top of the bind-post of Rheostat and you could hear your own singing? Don't you remember our using our using carbon, plumbago, etc on discs of card, silk, and other things that is the microphone when not adjusted up

June 6th 1878

Dear Jim,

I had not time to go you much in my case so put strong. This is the damnedest steal in the country and Tha knew it all the time, don't let them get anything out of y From your letter you don't thi (or seem not to) that it is a sh You must know that the microphone is only the telep with a very adjustment a telephone has passed thro the microphone stage and nobody knows or ought to better than you of that. Refresh your memory well now and remember you now have a chance to distinguish yo self, defend it well and de

—Yours

enough for clear talking. We have used one of these discs on each side of our telephone almost ever since you went away and here you can stand 100 feet away from the transmitter and talk & it can in my house I can get it perfectly even with 1000 ohms resistance. I have heard the little music box over 100 ohms resistance when it was placed 10 feet away from the transmitter I being at my own house that is a true microphone but Hughes is nothing but bad connection and how ridiculous think you can talk directly to the material itself without anything to shield it from

moisture etc. Hughes says in his article that "Stand be seen however in my experiments the diaphragm has been disturbed resting as it does on changes produced by molecular action and that the variations in the strength of the currents flowing are produced simply and solely by the direct effect of the sonorous vibrations." Now Jim I dont know whether you saw it or not but Edison gave an article to Prescott's book some time ago and it was published in Journal of telegraph Sept 16 1878 The article says

Don't you know or see from this that our plate is not a diaphragm but only a collector and that the sonorous vibrations make the chan by direct impact? Do you remember the springs you made of steel with cups on end to hold plumbago like this: I have them all here now —

As for the heat measuring arrangement that is ours and we can prove that Preece did not think of that till after he had received a paper from us called the Washington star and from which he quoted when delivering his lecture on the Phonograph before the Society of Arts. Don't you remember Prof Langley coming here and left Edison a small thermopile and Edison then promised to give Langley a heat measurer the principal of which was his carbon button some six months ago. Oh it is the worst case of steal I ever saw. We have got magnificent proofs and records of it and we will make Preece so damned sick he will wish he had never been born. We will spend $500 if necessary to expose it even if we lose our telephone there. Scientific American, Dr Barker and

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and many others see the 'steal' and are going for him 'red hot'. Keep me posted as to where you are and I will send everything. If you had not have got out of the hospital I was going to ask Ellen off to look after you.

Look in Scientific American and you will see Edison mentions new dry divided metals.

Read up everything on the subject and when you think you can talk intelligently on anything go for it like the devil. Hope you are better again. Be careful take care of yourself while [illegible] and [illegible]

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first connecting us for we may have something for you to do in England yet again.

And now Jean let me tell you again that you have a great chance to distinguish yourself for this, tell them what you think even if you get you are sacrificing for it, we have the proofs and they will have to take a back seat. Ellen is well and spends a great deal of time with us she misses a little but you ought to write her saying telephone is all right.

Keep up hearted

[illegible]

June 9th 8

Geo H. Bliss. Esq.

Chicago Ill.

In manufacturing the telephone it will be necessary to observe the following instructions:—

1 Case must be japanned, and the words "EDISON'S CARBON TELEPHONE" cast on top round the base of mouthpiece where it can be plainly seen

2 The glass in the brass tube on diaphragm must be ground perfectly flat and must be put in, in the following manner:— After the brass tube is soldered on, all the solder must be got out of the inside of the hole, and when glass is put in, be careful that it goes to the bottom and fits in the brass tight, after this is done drop a few drops of pure shellac softened by heat into the bottom of the brass to hold it. Don't use ordinary sealing wax for this purpose as the telephone will continual rattling out

a little warm and it might soften it

3. The screws that hold the telephone together must be nickelplated and polished at both ends.

4 In boring out the rubber that holds the carbon button be careful that the guage does not go tight into it, and also that the shape of the hole does not alter when you take the rubber out of the chuck; as our carbons are so delicate that they will not allow of crowding in, but must drop in perfectly free, ~~but~~ without shake.

5 The two platina surfaces must be perfectly flat

6 The diaphragm must have a coat of japan or varnish to protect it from moisture from the mouth.

By attending to the ~~following~~ above instructions we shall have no difficulty in adjusting the telephones when they come here for their Carbon buttons

Very respty yours
Chas Batchelor Asst

June 13th 8

Geo. H. Bliss Esq.

Chicago. Ill.

Dear Sir

You promised to have me a check before you left New York. I need money very bad and should feel obliged if you will furnish me with statement as per contract, and check for balance to my credit.

Respectfully yours

Chas. Satchelor

June 29th 1878

James Anderson Esqr
Paris France

Dear Jim

I send you a copy of Prescotts book in which you will find statement of our telephone also of others you must remember it is written in the interest of the Gray telephone. You must read it carefully so as to call to mind all our experiments Dont go back to England till we tell you and if you see any of those fellows from the Postoffice dont let them pump you and get the best of you! We are fighting Preece and Hughes desperately and in this article from Nature

2

You will see that we have got them bad in their own net
I also send you an Editorial article of the Herald. Now if you have anything to say there give it to them bad
Send you likeness of myself And the General taken at Washington. Your last letter to me, I never saw so cannot answer it Edison took it and lost it so write again

Yours Batchelor

N.B. Mr James died suddenly this week don't know what to

C.B.

Menlo Park N.J. July 4th 1878.

James Adams Esq Paris France

Dear Jim I send yesterday a box to Gourand of London in which is enclosed a box marked for Pinkas this box contains 2 new Transmitters (enclosed) one box of 82 carbon buttons, one box (small) of carbon sticks & also [illegible] the [illegible] delay with bottle full of carbon, [illegible] key and one sounder. Pinkas had better send to them, also in the box to Gourand were two small boxes one [illegible] & Count de [illegible] and the other to "La Nature" Paris. These contain electrotypes of our heat measurer [illegible] perhaps the same man Pinkas gets your box can bring the two small ones [illegible] you can deliver [illegible] the parties [illegible] from Mr Edison. Edison said that he would send word to Pinkas to have him hand you $100 - & charge to his account I dont know whether he has [illegible] or not but if he has not I will see that he does tomorrow. By the way the 2 Transmitters we send you have a silk wire on each side of the carbon button we have been making them that way for some months and the cartons are pressed about four times and pounded up and sifted between

each pressing, the first three pressings are done in the other press and the final one in the regular dies this makes them so delicate that they have no margin unless we put silk discs on each side; they also have thin ferrotype plates as that thickness screwed down as firmly as these are, is as solid as the thick plate when only screwed down by catching on its edge as our rubber transmitters do. I have made a telephone repeater and it works first rate bang up. I think I shall send you one. Telephone is bang up and both Lincoln & Walker have sent word to Edison that it works to their perfect satisfaction on twenty three wire with low talking - how is that?
I think I shall send you a heat measure one of the new ones to show up. I have got a promise of one of the large pictures of Edison for your house but dont know how soon I shall have it

Yours as ever
Chas Batchelor

Rodgers is after rent Edison is paying hire from your G + S money. Ellen is O.K.

July 7th

Dear Jim

I see by cable to the Herald this morning that the Phonograph sent a message by telephone to Versailles and that another message was received on telephone and recorded by phonograph and afterwards reproduced several times. He did this last April in order to make sure of it before Edison wrote the article in North American Review it was however very low and we used very little dampening I am anxious to know how it came out but you as I know it is difficult to get it loud.

Yours as ever
Thos Hitchcock

To James Adams,
Paris
France

July 13th 1878.

Geo. H. Bliss Esq
Chicago Ill.

Dear Sir

I have received a letter this morning from Montague Ryan of Dunedin New Zealand in which he informs me that he has this day (Apl 29) drawn on you for £15-1. being amount standing to his credit as per a statement given of 16th August 1877. This needs a little explanation from me though perhaps you already know the facts.

When we turned over the foreign pen to you, this man's account was credited in my books with $68.67 which I thought of turning over to Geo. H. Bliss and wrote to him for information as to whether I should have it placed to his account with Geo. H. Bliss or send him draft for balance. In return he told me to keep it myself until he sent me word what

2

t do with it. The letter I received this morning is the first intimation I have had of his wanting the money and I cannot understand why he should draw on you for it. I presume you have done some business with him and if you will credit his account with $62.67 and debit my royalty account with same I shall feel obliged.

Very respectfully Yours

Ros Batchelor

James Adams Esq

July 13th 8

Paris France

Dear Jim,

I received your letter of June 19th this morning. Am glad to know you are playing the devil with them. Are you getting all the papers & book I sent you? Send you Tribune with Hughes letter to-day. Preece has not got the telephones now, Gouraud has them, so you will not have to go back unless we tell you. Edison left for Colorado and San Francisco to-day, will be gone a month. Glad you have had a rap at Preece. In "Iron Age" of 9th, amongst patents one on telephones being taken out by W H Preece. If you can find out anything about it do so. I told you in my last that Edison had ordered Puskas to loan you $150 on his account. I will take care of Allen she is now getting your $50 per month from G & S. I saw by Herald you test was all right if it was not "You would not get there" Press and dies will be ready in two weeks. Shall send you 4 sets new telephones on 20th. also 4 sets to Gouraud of London. Take care of yourself. See all you can and keep us posted well

Yours as ever

Thos A Edison

July 13 [illegible]

Chas A. Cleveland Esq
239 Broadway N.Y.

Dear Sir,

A Mr Jones called on Cleveland this morning in regard to some Stereographs that his brother is getting for Brazil. Cleveland says he (the brother) has the Argentine Republic as Brazil, and said that you could supply me with the necessary information, as regards the payment of them. I shall be able to ship them about the end of next week along with some other things the Gentleman wishes

Very respectfully Yours

Chas Cleveland

Charles Batchelor Letterbook, Cat. 1330

This unbound letterbook covers the period July 1878-December 1879 and March-May 1885. All of the correspondence is by Charles Batchelor and is in his hand. The book is divided into two parts. Pages 1-60 cover the period July 1878-December 1879. Most of the correspondence deals with the foreign promotion of the electric pen and the telephone. There are also letters relating to Edison's electric light experiments and to his expedition to Rawlins, Wyoming to observe the eclipse of the sun. Among the recipients are James Adams and George H. Bliss. Pages 61-83 cover the period March-May 1885. Most of the correspondence concerns the promotion of Edison's electric lighting system in France and the unresolved claims between Edison and the Edison Electric Light Company. Among the recipients are Charles H. Coster, Louis Rau, and the Societe Electrique Edison. The book contains 83 numbered pages and an index prepared by an archivist. Page 36 is missing. Pages 60 and 72 are illegible. All the remaining pages have been filmed.

INDEX TO LETTERBOOK NPS CAT. #1330

Adams, James - page 11, 15, 18, 25, 31, 33, 38, 41, 43, 44, 46, 47

American News Co. - page 27

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July 16 98

Frank McLaughlin Esq
London, Eng.

Dear Frank,

Your letter just arrived also lots of papers. I presume you have got the ones I have sent you. Edison was just starting for Colorado when I showed him your letter he had only just time to read it and "get". I am glad you have the Phono all right ours works beautiful. If you can send me anything in the shape of photograph or sketch of anything new on phono should feel oblige.

Phonograph!

It is easy to make a good clockwork but it is difficult to make one without exhaustions. 30 guineas is pretty high! good prospect however if you have to go to Australia. Your treatment of Fairley was good I don't know what Edison thought but perhaps he will write you. Your sketch of Phono "combination needle & Maieroid buffer" pleases me with the idea and makes me wonder you could get anything at all on it. Edison has been engaged on Elevated RR to stop the noise I send you some papers relative to it

He and I have been roosting up in the textile work a few nights and now while he is away I am making some sound records on a phonautograph so that he can tell them what is the matter when he comes back. Bell-Edison business getting pretty thick now. Let 'em come. Follow it carefully Frank and probably you can put a word in now and then. Hickling all right eh! good, stick to him!
I think Bliss has been badly sold in Beetle claims & have lost $2,000 — on the transaction. Have not quite got out my yet but will notify you when I do OK
And now Frank wishing you prosperity
Believe me
Yours respty
Chas Batchelor

July 24th 8

Thomas A. Edison, Rawlins, Wyo.
saw Walker today. he is anxious.
He took one & some carbon telephones of Phelps make, one working to 23rd St and another to Brooklyn - everything could be got perfectly. I told him I would bring over something a great deal better tomorrow. I am going to put a pair on their worst wire tomorrow I think it will astonish them. I have had a great deal trouble with P & O's insulation mag in magnet am making new ones all through.
Paid your insurance today
Guess I've got Murray an order from Walker if he will make cheap enough
I have taken no records of M. C. A. M. yet
machine is ready but have had no time owing to telephones troubles.

2

Dont give yourself any uneasiness as I have got the trouble by the ears and I shall ~~yet~~ get rid of them all by next Monday.

Should like to answer this controversy about microphone receiver but wait to see what you think.

Have sent tarimeter patterns and a first rate new drawing to W. & Mfg Co

Am getting along nicely with the press and die for Jim but cannot send it with the telephones

Phelps edition of Carbon telephone is good as it is exceedingly cheap, of course not as loud as ours I shall go and see him about that and shall

also insist on Edison Carbon Telephone being put on all of them

Man writes to day for 20 carbon tels. from California, referred to Walker.

Charley sends Photo of P+C. telephones today

Am paying Rinney $12 per week but he does not work here but at home so that to your satisfaction.
Cleever has busted higher than a kite but Painter and Hubbard were closeted this afternoon & I understood that they had secured everything so that it will be un-inconvenience. You will probably have more reliable information on this from them. They say you have busted their business by giving them away to some Chicago reporter.

July 24, 1878
to TAE

4

Advise me about Jenis letters I am ready primed only waiting to know what you wish to do.
Am making 2 Megaphones and shall try them in two weeks at Watch Hill

Yours phonographicarbontele-phonically Batch!!!

What did you think of translation I sent of Phono. being put in class of telegraphic Insts (did it delight they?)

Is it right for Scientific to ~~do~~ print instructions on how to make a phono. and give dimensions etc without telling them that by making from them they infringe

July 28th

T. A. E. (Wyoming) Rawlins.

Dear Sir,

The telephones in the p[illegible], had a magnetism in them. I have made new ones and get exceedingly loud talking clear and can be heard off a way. Notwithstanding this, when I put them on Brooklyn wire five miles to Scott's house which is the worst wire in the country it worked well, but not so well as the small M[illegible] [illegible] the difficulty being its resonant qualities being so great that appeared muffled. I did not try another wire as I know it is OK for any other wire but such a one as 23rd St or Scotts wire which runs on poles in N.Y. with 72 other cable & then 40 wires on poles for 5 miles. If there was any noise in room I do not mind that the Phones would be so good.

I left them there and took over another pair to day with smaller diaphragms

2

1⅞ in clear of ferrotype plate and although the diaph. were 2½ hundredths away from core the magnets were so strong that they were very loud still there is such a resonant tone to them that Scott likes the Edison Phelps better I expected to get Murray on order but I must demonstrate to them that this form will work better even on that line than the other. I think it advisable not to send Jenis or Gouraud until we have worked the Brooklyn wire better. Mr. Edison Phelps inst. does which is poor to say the best although they seem perfectly satisfied with it. We have got so much loudness that I am putting in some heavier diaphragms for experiment. I know if you were here you would far prefer ours to the Phelps rec. [illegible] be two low for you. but I must satisfy them on that wire and then I think we can safely send them to Europe. Shall put up McKenzie's and also send Smith's of Central America and two to Mexico. I hope to write you shortly of success of Brooklyn wire

I went to see Cheever about your telegram today and he said that he presumed you meant the balance on $10,000. I told him that I presumed it was. He said there was due from him about $600 and from Painter $100 which was balance of $10,000 He said that he was restrained from paying anything and that you would be obliged to wait [illegible] or [illegible] and he was sure you would do that knowing the trouble he was in. He said that [illegible] Painter must have wired you as he told me not to say so as he did not know but he might be mistaken. He told me that he had sold out ~~to~~ telephone to Hubbard & was going out of it. Will see Painter to-morrow & see if there is any chance of getting it out of ~~him~~ Cheever.

Everything is going lovely except that the telephones not going right off & my satisfaction keeps us at it nights and day instead of doing other experimenting I shall send 300 carbon buttons to Chicago Monday or Tuesday

Yours as ever

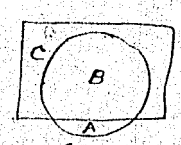
Bell

July 25th 98

Robert Spice Esq
Brooklyn

Friend Spice,

Can you tell me why this should be so? We have a telescope with 3½ inch lens and I find that I can put a card over about ⅞ of the lens without obstructing the vision but more than that makes it first dim and then altogether obscured



How is it that with card C over the greater part of lens I can see the object with only the small part A uncovered

Yours
Chas Batchelor

July 31st 8

James Adams Esq
Paris France.

Dear Jim,

Microphone — I send you a few papers which may help you
Copy of document of carbon receiver —
Tracing of three more important documents, fix up the reading matter to suit yourself you cannot be beat in Paris although we don't care a cent of 76. Don't let Bleyle get ahead of us on microphone receiver I had it mentioned in Prescott's new book now coming out. did you get his book I sent you?

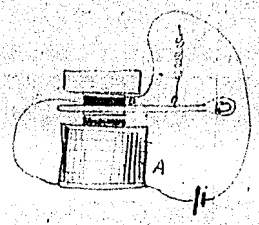
Telephone I have got some good telephones but they have a little resonance owing to us using eartubes and having two diaphragms in a box and am afraid they might not suit your underground lines I have written Edison to see whether I should send them.

July 31, 1878

2

Telephone — If he says so I will but you must be the judge of them as to their working. Send you Photograph of one. I cannot send Gouraud's yet till I hear from him

Electrical Governor.



A Spool
B Carbon button

The current runs as you see through both carbon button and the spool as the battery weakens it has less magnetism and consequently presses ~~less~~ more on the carbon and makes resistance correspondingly less. You may of course have another button insulated from the other under pressure which can regulate a second circuit

Foreign Pen — I expected just as you have said in regard to the Pen. I have tried to raise some money for myself and Ellen from Glass several times but all to no purpose, he has got so now that he dont answer my letters shall write to him and have him correspond with you.

July 31, 1878
to James Adams

3.

Your letter on the Crouch wife is laughable
{Sir Wm Thomson wrote Preece & told him that Edison deserves the first place in the Microphone business and that he Preece explained the thing as Plymouth when he showed Edisons telephone (this confidential)}

Pope — I see Pope is home here today.

N. O. Contract — Our contract with N.O. Tel Co is all off we have drawn since June 1st Ellen is getting your share; dont fear; I'll look out for her!

McLaughlin — Mac' starts for Australia with Phonograph but goes to England with the gentleman that is with him in order to try and sell Australia there first; If they sell there he will not go If they dont sell they will go.

Laboratory — About as usual. Martin & G. Carman, and boy as help, Will Carman keeping books and tracing on experiments. Griffin writing letters etc Thuesi, Jackson, Logan, Sigel Albert Charley Eckerson in shop.

For G. — This Photo is one of your first taken on our new photo apparatus

Yours truly
Chas Batchelor

Aug. 1st. 14

Montague Pynn, Esq.
Dunedin, New Zealand.

Dear Sir,

A few days ago I received a notice from you that you had drawn on Geo. H. Bliss for £5 — and wished me to honor same. When I turned over the Electric Pen business to G. H. Bliss there was a balance on my books of £2.6/ which you requested me in a subsequent letter not to turn over, but hold till you sent for it. Therefore I was considerably surprised when you drew on Bliss, your draft being made for £5 — I have therefore enclosed the First or original of a draft in this letter and shall send its duplicate by next mail. Should be glad to have your receipt for the same at your earliest convenience.

Very respectfully Yours
Chas Batchelor

Aug 5th 8

James Adams Esq. Paris France.

Dear Jim,

Just received your letter of July 24. I send you the Press and dies with some lamp black; (4) our telephone stations for Russia, also (4) to Gouraud all on saturday the 10th's steamer. They will all be shipped to Gouraud in London so you will have to go or send for them there. Edison is in San Fran. Pope is back and I shall try and have a talk with him to-morrow. McLaughlin is back their project "fizzled out", he saw Preece in London and he says Preece is mighty scared about his reputation, you have no

Aug. 5, 1878
to James Adams

2

Don't read "Engineering" I send you the Scientific American which goes for it on an article called "Crooked Journalism" you study that Jim and you will see we have excellent points to work on, I gave these points to one of them reporters and they will in next issue go for them fearfully. I will try and put a "heat-measurer in the box. Mac says that Beetle is a byle and that Muskas told Beetle that he was an old woman. More in next Mail

Yours
Chas Bachelor

Allen is all well and lively

Aug 8th 8

G. H. Bliss Esq

Chicago. Ill.

Dear Sir

The Montague Payne draft I am glad you did not pay as it drew for £15 when it only ought to have been £12 – I let the draft alone and I sent him another one for the amount due him as per my books.

I can assure you that any money will be acceptable on 'Sign Pen' and don't care how soon you can do it –

As regards Beedle I am sorry he has turned out such a failure. Jim Adams writes me that the business is conducted horribly and asked me to tell you what he writes in his letter, he says

I think that you will certainly lose money as long as Bertie is there. And also Jim says there are two gentlemen there that are willing to take it and put money enough in it to establish agencies all over Europe, who will guarantee to take a certain number every month and pay for them. He thinks you could make your own terms with them and they are good. I think you ought to write Jim on the subject because if you do nothing about it you will gain as little information. Jim's address is

James Adams
20 Avenue des Sycamores
Auteuil
Villa Montmorency
Paris.

Yours respectfully
Sherrard Clemens

Aug. 9th 8

James Adams Esq
Paris France

Dear Jim,

Yours of July 27th to hand. I sent you yesterday (1) one new press and carbon moulds complete with a canister full of lamp black & liquid with. This is packed in a box and marked for Puskas care of Gourand London. I also sent another case containing (4) four of our new telephones two for Puskas and two for Gourand, the transmitters are taken out and soldered up in tin cans. There are also two wrenches for them. You had better go to London to get them as I wrote Gourand that ~~we don't you would have to unpack it perhaps~~ I anticipated you would unpack them therefore I gave him no instructions. Of course you need not go if you can get the

Aug. 9, 1878
Batchelor to
James Adams

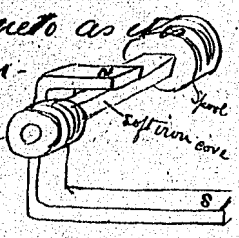
2

boxes shipped to you and then afterwards take Gouraud's telephones to him. And now Jim the reason why I did not send more of them is this. When I designed it, Edison would have large diaphragms in the receivers and they are very loud on ordinary wires, and excellent between here and Philadelphia on two cells of Callaud; but whilst Edison is away I have tried them on short cables and wires running 70 on the pole; now I must confess although it worked well I would prefer two of our little receivers and therefore I think you know what will suit their wires best. Of course I know when Edison hears this new one, he will be delighted because you know it is difficult for him to get anything on a small diaphragm but for us who have good ears we prefer to have less noise and clear talking therefore as I do not think they will

Aug. 9, 1878

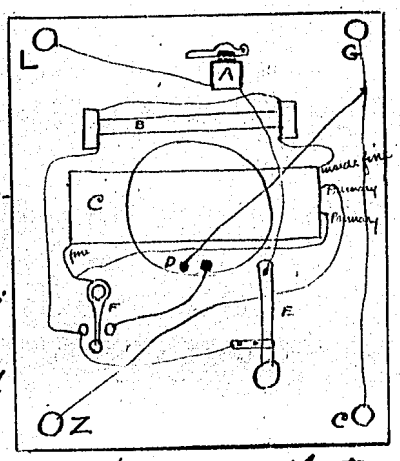
3

be exactly what you want I only sent one for P. and one for G. I shall send you a Phonograph (not a clockwork) on 15th of this month. We have not the Johnson instrument here but I will try and put something together and send at same time as the phonograph comes. You will find the transmitter I have sent have a silk disc on top of the carbon button. These carbons are very delicate being pressed and sifted a number of times they are very loud and if they dont have the silk on top there gets a rattle (slight) in it with such a thick plate. You will see Jim that the shape of the receiver is altered in this, and we have got the best form of magneto as even a stroke of lightning cannot affect it; it is just as perfect as a Siemens armature.



4

Here is a rough diagram of the connections for it. A is sounder B iron core on magnet with spool on each end. C coils; D transmitter; E key, F is switch to the right for telephone & the left for call. The two top bindposts are Line and Ground and the bottom are battery and you will find them in pairs as far as the Z & C marks are concerned as you know they must be reversed at each end. There is a wire sticking out of transmitter that is connected to the loose wire in telephone box and the three screws that fasten it make the other connection.



5

I have never used more battery than two cells callaud on them but you suit yourself. Whoever you learn to use the press impress upon their minds to be careful as the dies are easily spoiled, also be careful in unpacking same and Jim dont let anyone press any thing else in it as I nearly spoiled mine by adding sulphur and pressing it. I think Bliss will write you on Beetle matter. Mac thinks Beetle is an old woman and dont know how to run the business

Yours as ever

Chas Batchelor

X 23

Aug. 9th 78

Geo H Bliss Esq.
Chicago Ill.

Dear Sir,

Having just received a letter from Jim in Paris I give you a few extracts for your own private information. "Beetle feels sick I know, I guess Bliss has been giving it to him stiff and it was high time". "Beetle is trying to get the business into the hands of Roosevelt & Co which is Roosevelt and Beetle, he says now that Bliss is not an honest man and if he dont look out he will run the pen business himself and get it direct from Edison"

I think you ought to have Jim inform you privately as he seems to think that Beetle is by no means true to you

Very respectfully Yours
Geo Batchelor

August 9th 78

Montagu Ryan
Dunedin
New Zealand

Dear Sir

Enclosed please find duplicate of draft for £62.67 of which the original was sent a few days ago

Respectfully Yours
Chas Batchelor

Menlo Park N J

Aug. 14 97

Ames Adams Esq
Paris France

Dear Sir,

Had a letter from Bliss, says he recalled Beetle 20th of June but he has the privilege of 3 months notice so he cannot get him back unless Beetle likes to come. Bliss will write you at once and I guess he will want you to look after his interest as I told him you could give him any help you could.

In haste
Yours as ever
Chas Batchelor

Aug. 14th 8

Geo H Bliss Esq
Chicago Ill.

Dear Sir,
Received your check for $50 fifty dollars to apply on Royalty account with thanks. Will take you noted on anything I hear from the other side

Very respectfully
Chas Barnes

142 La Salle Street

Aug 15 78

American Hewelloo
Gents

You have on your
Books and account against Mr Edison
June 28. 1878 of six dollars please charge
this on my account and send me a
receipt for same. Enclosed find check
for twenty dollars. after deducting out
for Edison please fourteen to her of my
paper Account

Yours truly
Chas Batchelor
for E.

X 28

Aug 15th '98

G. H. Beins. Esq.
Chicago Ill.

Dear Sir

Your information forwarded to Edison. As regards Roosevelt in Paris I have never heard Edison express an opinion, but as long as Beetle has gone in with him I don't think he (Edison) will be likely to endorse him No doubt the party Beetle has is Roosevelt and Beetle for they are already sending out circulars I know Ruskin and Beetle do not agree very well as Ruskin has frequently told Beetle that he was too much of an old woman to do any business

Yours

Chas Batchelor

Aug 16th 78

G. H. Beiss Esq:

Puskas says that Herz & Beette are trying hard to spoil sale of telephone in France, and that Beette has secured the pen agency to Herz, is this so?

Yours respectfully Yours
Chas Batchelor

Aug 17th 8

Theo Puskas Esq
Paris France -

Dear Sir

Beette has cabled to Bliss that "Puskas was in great financial trouble, dangerous". I thought this may be of use to you. I know Mr Bliss has recalled Beette the 25th of June but he has the option of taking three months notice and therefore he will not be out of position till 25th of September. Beette has made miserable failure and probably he was afraid when he cabled, that you would get hold of the pen. What do you mean by him securing to Herz the pen agency

Respectfully
Chas Batchelor

Edison still must have forwarded your cable to him

Aug 17th 8

Theo Puskas Esq.
Paris France -

Dear Sir

Beetle has cabled to Bliss that "Puskas was in great financial trouble, dangerous". I thought this may be of use to you. I know Mr Bliss has recalled Beetle the 25th of June but he has the option of taking three months notice and therefore he will not be out of position till 25th of September. Beetle has made miserable failure and probably he was afraid when he cabled, that you would get hold of the pen. What do you mean by him securing to Herz the pen agency

Respectfully
Chas Batchelor

Edison after wards forwarded you cable to him

Aug. 23rd 77

James Adams Paris France

Dear Jim,

Yours of 10th Aug 11th just received. In working one of the lines to Brooklyn where you know there is a great deal of induction I found that the big diaphragms in the receivers I sent you were not so good as our little receivers; of course we knew this beforehand but Edison I suppose thought he could take it up by thick large diaphragms, however I tell you what I have done with a pair of them, for the Brooklyn lines, so that you can get them altered to suit your lines, I have put small diaphragms on them in this manner:- on the iron bar that goes across the magnet I cut a thread at each end then I screw on that the Rubber box A. the cap B is screwed on to the box A you see by this means you can kind of adjust the diaphragms for distance from one by turning the whole body on the screw. the reason there is a piece cut out at C is because if it is left full it will touch the large coil

inside. Edison is not home yet but we expect him home in a few days. Have you got the money that Edison wrote Pusta to give you. Bliss says he wont have anything to do with Herz and if Beetle has arranged pen business with him he would request you to "boot him out of the office" These are his own words I presume he has written you about it. See the instruments I sent you last although they are pretty and do away with cords I have one or two objections against them which you need not tell any one else, but between ourselves, they are exceedingly tiresome to hold long, and then if you want to read anything you cannot hold a paper or message so that you can read it.

More at another time
Yours as ever
Chas Batchelor

Sep. 3rd 8

James Adams Esq

Paris France

Dear Jim

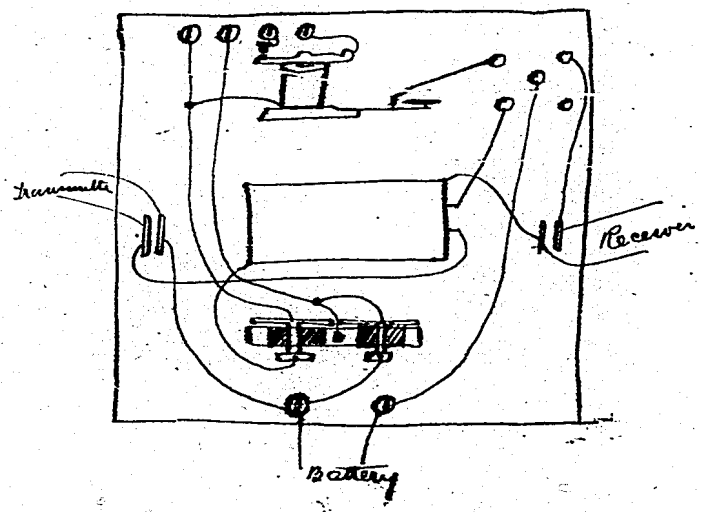
I am going to send you two of the Carbon telephones as they are being used by the Gold and Stock Tel Co, all complete except the receivers which you can put on yourself it is intended to use a Phelps receiver but any you have will do as well and perhaps you have better ones for your lines will notify you when I ship them. Has Bliss written you at all re the matter?

Yours as ever

Chas Batchelor

Sept 11th 8

2



Carbon telephones. This I send you is the one designed for using the Phelps receiver and is made by Phelps but altered a little by me. You will find the transmitter vibrates when you talk into it but do not alter it untill you have tried it perfectly, if you have to adjust it at all it must be

James Adams Esq
Paris France

Dear Jim.

I send you a new telephone on brackets. I have put in one of our old receivers, but you must put in its place any you want; and fix something on the end to hold it when you are not using it. This is the instrument adopted by the Gold and Stock Tel Co in New York and there are now about 1000 in use in this country, we ship Carbons to Chicago & San Francisco. I tell you the Carbon telephone has been a 'God-send' for the Phelps and Gray telephones, they have made them by the 1000 and now they find that they can only [illegible]

P.S. The days of the magneto here are shortening wherever it can be done people want Edison's telephones instead of Bells or any magneto.

The Western Electric are making a very pretty pattern with a Gray receiver and the Electric Co of San Francisco are making them but I have not seen their pattern.

Welps is relying his stock entirely on them and by the time you get here again you will have to exact an exhibition of antiquities to be able to get a glance at a magneto of any kind as a transmitter.

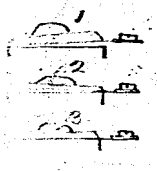
Yours B

Sept 11th 8

J. H. Phelps Esq
New York.

Dear Sir

In working with Edison's transmitters if you make find that the tag on the platina is too stiff and short. If the carbons are not quite the same thickness, or the cups not quite the same depth the glass has a tendency to stand as in figs 1 & 2 but if the carbon and cup are exactly right it stands as in fig 3 and when so, they talk best. As this is a fine point to provide for, I always make the tag longer as in fig 4 and bend it up in a curve, this allows the glass to lay perfectly flat on the carbon whether it is thick or thin. The tag I make not more than 1/16 of an inch wide. ~~Some~~ One of your transmitters I have made twice as loud by simply making the platina as I say and I find a number of them in the gold and stock that are very low I think simply from this cause



Very respectfully yours
Chas Batchelor

Menlo Park, N.J.
Sept 16 1878

Dear Jim.

Yours received. I told Ellen you would not be home till Spring. I think she will be satisfied as long as she knows you cannot leave. It will be impossible for me to come over; do the best you can, glad you are working successfully. Gold and Stock are using nothing else but they work them very low not anything like ours (however we dont care a continental what they do with it as long as they pay all right. We are almost rid of telephones now Bergman makes for foreign countries and they are sold by McKenzie who is agent for the "Pen" now in New York. By the way Jim you ought to try and get a little money out of Bliss; I've been trying, but cannot get but he might arrange for Beetle to give you some, you know you want to scoop in all you can, and I am afraid we shall get much from him anyway, dont tell him I told you to, because I am trying myself. We have struck a big thing on Electric light & I think we have solved the problem of the subdivision of it so that we can make as many lights of small power as we like instead of

one light of great power as others have always done we are working night and day on it now. If anyone asks you about Electric light and what Edison is doing in it you can tell them he has just solved the problem of the subdivision of the light indefinitely but it will not be shown till patents are all secure I will send you description. Did you get that book? If not I will send you another
In making our carbons I forgot to tell you that we powder the lamp black and sift it very fine, and then press it up; and then powder it up & sift it again, we do this three times so that when pressed for last time it is very delicate. Can you speak French yet? Ellen is well. Isa & kids all well

Yours as ever
Chas Batchelor

Send you "Sun"

Sept 21st 1878

U. H. P. Esq

Letter sent to Bailey this morning restraining him from employing counsel for Edison. Man has taken some pretty high in today. From the way Edison looks at it I don't think it would be advisable to see Harris; & I think you can buy his experiments cheaper than it would cost you to see. Edison thinks we'd see that if you would put the "phone" into shape late that you could sell 100 where you sell one now.

Charles B. ← Harris

He will write Johnson about tariff & let him know what countries he can sell in

Barck ?

1879

Dear Sir,

[illegible] Edison is writing you all right [illegible] to answer. He will go at it. I think [illegible] on Private Business [illegible] to France but I think [illegible] Have the Company write to Edison direct about it. — Perkins made you a present of [illegible] and I think that he ought to be the only thing I am sorry for is that Edison gets something out of it too —

We cannot send you a tachometer as Edison has given them all away, [illegible] seeking them in London I believe. The [illegible] telephone is news to me. I never heard of it before. I always read you a paper when we send to Texas and frequently when we change [illegible] I send one to you. Now recovering [illegible] Company Edison is working at one time. Edison [illegible] on the Light! He regards it [illegible] but with the Company Edison hopes you will [illegible] it [illegible] and one [illegible] different countries for Perkins [illegible] you had proved it so [illegible] to be [illegible] is that so? Now that answers your letter [illegible] for something else — You will have got Mr. Edison's statement in which you see [illegible] the [illegible] of money coming from Perkins I [illegible] but you will also see that Edison [illegible] the letter that [illegible] all [illegible] the people [illegible] how [illegible] the [illegible] the [illegible] has [illegible] [illegible] going [illegible] on [illegible]

You see Bliss comes in on this and I wanted Edison to keep back his share and pay it on age & Edison Batchelor, & Adams on account of Foreign Pen Royalty, but he would not as he said Bliss was hard up. Has Bliss sent you statement & Rosa is anxiously waiting a letter from Ellen.

Jim will you send me all the circulars and information of the Gramme, Siemens, and Meritens magnet Electric Generator. Shop is all finished and the Engine running and place heated by steam. For the last 8 weeks we have worked all night right straightalong and sleep in the day time we intend to do this until this is perfected. We are making right along 400 carbons per week for Gold & Stock. You remember Badger of Montreal, well he had a patent on telephone in Canada, owing to Edison's arrangement with him some time ago, I daresay you remember it; well, the Gold & Stock have paid him a thousand dolls. for his patent, and are making a contract with Edison for $1 per year royalty on each telephone they, and they are going to start Central Systems, so we can expect something from that source also.

Very cold here 18 below zero & night outside ——

Yours as ever

Chas Batchelor

Rosa desires love to Ellen Martha & Freda.

C. B.

1879

James Adams Esq

Mrs Spencer

Dear Sir,

I have been expecting to hear from you about Ellen, it is over a month since she left and I asked you on her leaving. I have kept her insurance in the hope of being able to cover it when it is in our house and enclose the policy to you to fasten on to your policy which I assume you have with you. Everything is lovely here as present, never better, some of us have it and now you have it, I hope it may not be on us on Christmas. As for Christmas I always liked the Maids dear sitting at the table, it is the handiest. Now Lucien, you will not have to wait much longer for us I think it will soon be out, you should run down the place here now it is very pretty

Yours as ever

Charles Spencer

Feb 1st 9

Henry Clemens Esq. Henry. Hartford.

Dear Sir, Yours of Jan 28th received. Enclosed finds the application of Thos Rogers from England. I have told Mr Carman to send you a credit statement like this whenever there is anything coming to you, and I hope he will get you an order for $5 and you credit for $25 regular Gold Stock and $50 Eng. Phono. Will Carman is also going to send you a full statement every month and; if you do not receive them let me know; as I have so much to look after I cannot do it myself but I will see that it is done.

Duff also sent you 30 shares of Electric Light Stock, we expect to make them worth $1000—each before another year is over as long as I have

G4

I was very sorry to hear you had been so [illegible]. [illegible] the [illegible] on the French telephones. The fact is that Edison has [illegible] the [illegible] of [illegible] & France, [illegible] been [illegible] [illegible] [illegible] and Puskas' [illegible] [illegible] [illegible] from [illegible] [illegible] you [illegible] [illegible] is only a small portion of what comes from France, and also that you are getting your percentage of all we are doing here, and anything that there is to divide; yours will be sent to you. I have talked this matter over with Edison and this is his view of it as well as mine. By the way he did not at first like the idea of you taking any money from the ~~[illegible]~~ Telephone Company but I smoothed that over by telling him that you were ready at any time to go anywhere where Puskas wanted you to and would not let it interfere at all with what you originally set out to do. Will send you another letter tomorrow or next day with central station diagrams.

Yours as ever

Chas Batchelor

Feb. 9th

James Adams Esq Lowell Esq

Dear Sir,

It all right about the money you get from the telephone company, your letter I got a week ago explains it perfectly satisfactorily. You must have misunderstood my letter about Perkins telling Edison something what I said was this. "In regard to your job with the company, Edison hopes you will not let it interfere with your going to Europe for Perkins, I told him that I thought you had fixed it so that it would be no detriment." Look back at my letter and see if you don't find it something like that.

I shall send you the Rheostat and the diagrams this week. I am fixing it up now. Hoxie was glad to hear good reports from Ellen. Bergman is making some of the new receivers now. Tell us all you know about the French Co, as Edison wants to know who the company is, what they propose to do, what they are doing, whether they have any telephones going or not, we have to depend on you for all information as he very seldom gets any information or letters from either London or Paris. I think it would be a good idea to answer the questions just as I have put them. Shall we send all your letters to 22 Wynne Rd Brixton?

Yours as ever

Chas Batchelor

James Adams Esq London England.

Dear Sir, I have now to [illegible] [illegible] time to take up your long letter in detail. [illegible] about the Phone Royalty you say you got 10% on the money advanced by Gouraud, I don't think that is so, because I know I only got 10%. I think you are mistaken and also in the 10% you speak of the [illegible], you know that is 5 per cent in three different [illegible] which is only 5 per cent of the whole; [illegible] 5 per cent on England is the same, as if there [illegible] 3 [illegible] selling different applications of the [illegible] and you had 5 per cent in each; that is only 5 percent of the whole. The [illegible] to [illegible] the made a small phono. which they sell [illegible] — and which they have a guaranteed order for [illegible] and they think the Company [illegible] [illegible] there will take 20,000 for the [illegible]. It is a very good little phono, has a [illegible] cylinder, and altogether talks just about as good as the large ones, they are going to be made by the Remington or Colt or some such firm. In regard to Gouraud's assertion that he kept him and [illegible] Wright at a great cost to himself and [illegible] it is not so as Edison says he advanced about [illegible] — and when the money came he took the £1000 back so I think he was lucky to [illegible] [illegible] to Edison ever [illegible] such [illegible].

As you have [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]

2.

You dont need to be afraid of our seeing in G. & B in future as we have got quite a different class of men in hand as now and any man that gets in here will have to plank down money first. Bailey is here and wants to get a hand in in European Electric light, well there is a chance for him but not such a chance as Pustkas got for Mephane, oh no we dont do things that way now, if he wants to come in on electric light he will have to guarantee $5000 — experimental purposes whenever called on by Edison to be used by Edison as he sees fit without any question being asked. Bailey has been here three times with different gentlemen but I have not had much talk with him. The light is the biggest success ever made, and although it will be some time before it is out, at present I think I could get $200 per share for my stock, I heard it mean offer Edison N.Y. let cheap for Electric Light Stock and you know N.Y. is 86 now. Dont let on of this to anybody. I have seen it stated in London papers that Edison's backers had gone back on him, well if you had seen them here the other night you would not think so, besides all the money for this thing was put up before we started. But you can bet your life that B. will not enjoy such knowledge without paying something to get into the game. Pustkas of course is already in, as he paid for patents before we made this arrangement but I'll tell you one thing, that our negotiations in the future will be with men of standing and solidity and I think G. & B. & P and I may add G. will have a decided hard time of it if they have no money

Yours Sincerely

[illegible] Edison,

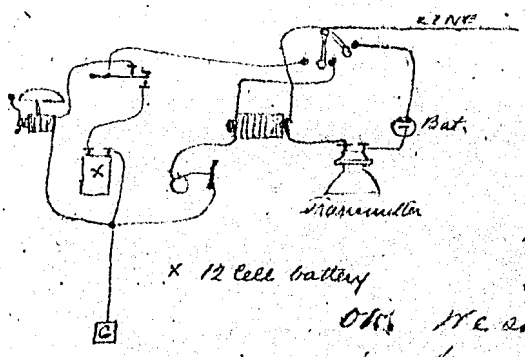
Dear [illegible]

[illegible] just to recall. I have [illegible] some [illegible] of Adams clerk [illegible] your telegram, and I [illegible] you will do all [illegible] care to fill matters for his wife. As Gouraud reported he was so sick, Edison had decided to recall him and had already sent the telegram, thinking he would have a better chance to get well here.

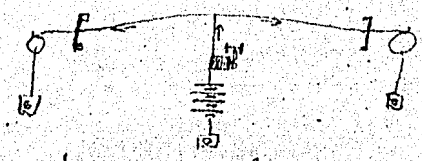
Gouraud is here at present and we are making 50 telephones for Central System here, which he will probably take with him. You are right in supposing the width of the spring has considerable to do with the proper working of the microphone. The longer the line the narrower the spring could even in laboratory out of 10 different widths I find 1 & 36 wide by far the best. One of our first ideas on the microph. was that it formed H. gas under the stylus but later we have come to the conclusion that it must be due to capillary action; the passage of the current, altering the capillary force, causing an the force of the check so as to drive the moisture away from the surface.

The new telephone is simply immense, Hexamer will have a specimen of it and I shall send you one. We have an apparatus in working but [illegible] equally good and in case the central system [illegible] the [illegible] and central station [illegible]

to have it in same direction for both receivers. We have also devised for the call a 12 cell battery that goes inside a Leclanche battery jar and is just the best thing you ever saw, it is an open circuit battery and will last I should judge 12 months. This is the connection of the instrument working with Central Station as far as I know at present. Transmitter will be made with short funnel so that if you talk any where within 6 inches it is all OK. We shall put on a bell instead of a sounder and as you see we use a double point key in order to prevent any man from having his battery closed when not working.



The permanent line battery is put on at Central Station in this manner; so that polarity is always ~~[illegible]~~ right for both receivers, the magnet you see is a 500 ohm German silver magnet which gives resistance to the leg and also tells when they have done talking. I sent you a book entitled 'Edison his inventions' did you get it? Send me by mail you can Du Moncels new book on Tel. Phone etc. Send you Herald with obituary of Jean, what do you think of it. I should like to know the address of his relatives in Scotland as I could send some. Will send you



Nov 2d 49

My dear Johnson,

Your letter of 19th ult. I received last night and all contents noted. I believe now that we have got the instrument perfect — It requires no extra call battery — You can interrupt any time — Chalks are exceedingly hard — Mac leaves Wednesday bringing two — He also brings lathe and a number of chalks — He has been pretty well drilled and understands thoroughly how to turn, wet, and adjust them — I should give you a long account of our experiments, but Barnes has not, as he promised, written a long letter to Greig for you, giving you the results and practice —

We have had some success on the greats at Saratoga and that

2

place it's all that) Edison is not the man that ever seeks to compromise always believing he has the best, if he can find he has not, he generally calls on his genius for more invention instead of talking compromise.

Edison appreciates the situation in re to the irrevocable power of attorney and broadly and flatly refused it to Gouraud, I believe he recalled the fact that he had done so with Harrington, and had had it thrown up in his face frequently afterwards. — He seemed pleased with the plan you suggested and I think he will write you about it himself. He told me that he wanted you to keep your hand on these matters and that he thought very nothing of the mortgage contract. Considering this, [illegible] he does not place it.

Much regards

Nov 8th

My dear Johnson,

Last Friday Barton was here and as Edison was away he "chewed my ear" for about two hours steady. He is looking out for more manufacturing and thinks of starting in France to manufacture for the Continent. He wanted to know whether I thought there would be any objections on the part of Edison to his manufacturing the telephone for France. He said he understood that Edison and Johnson were interested in Bergmann's shop and possibly it would be useless to try. I told him he was mistaken in regard to that. Edison I knew had no interest and of Johnson had had I thought I would know it. I let him know that we were making them here ourselves when

Bergman stepped in and gave bonds to do them equally as good and at as much lower a figure that we looked no further — I told him that I did not believe the N. E. Mfg. Co. could make them cheaper than Bergman as they had as many people to be paid out of them and in the other case there was only one little Dutchman — B. is taking a boy named Seubner over with him. I think this is the youth that has made a number of improved Carbon-telephones and is the originator of the ones the N.E. Mfg. Co. are making namely a hard carbon disc instead of top platina plate, the top of the carbon plate is supposed to allow the platinum tag to be soldered to it — It may be that they are going to try and patent this in Eng. or France. I summed this as the cause of his taking over Seubner as I gave him a graphic account of the way you were going for all

infringers Blake, Crosley, etc and assured him that any one taking a new infringement there would have an exceedingly hard road to travel – He did not say much but I guess he will confine such operations to the continent. When he comes no doubt he will call on you so be prepared for him about manufacturing. I believe Edison has cabled you about the pure water in chalks it is very astonishing he is going to give you the whole thing in a long letter — We have just tested 34 in 1½ hours how that?

Yours as ever
Chas. Batchelor

Dec 14 79

My dear Johnson,

Have received your letter for Nov 27 in which as yet you have not got the 'Water Chalks' but a cable from you a few days ago seems to imply that you have now — When we first started the 'water' business we took a chalk and wet it with a half brust full of water, it was very loud for two weeks and then gradually tapered down to about an ordinary Carbon telephone on a Magnet and continued that way for four or five days — We then wet it with another half brust full of water and in a few hours it came back to its original loudness — This shows that you can take chalks that have been wet some time and resuscitate them by merely using a small quantity of water ——— After wetting the chalk and allowing them to stand twenty four hours we sometimes find the talking uneven this can be remedied and the talking brought out perfectly even by taking a brush (about dry so that it will hardly more than moisten the chalk) and holding it on the chalk for three or four turns while it is turning rapidly — This does the business without lowering the sound except for a minute ———

One of our young men (a boy) made an improvement(?), he turned the rubber upside

2

down because as he says "it makes a great improvement in the loudness", we let him go ahead and fix it — then Edison and I got at them — Result 90 telephones low. Young man had to fix them over — Guess he'll not forget that point in this —

If the checks are turned up and put in Telephone without wetting they will talk quite loud with only then one water of mouth — one tenth of a teaspoonful of water will bring them out in a few minutes — Of course that is not law so long, but it might be good to know it in case of emergency — These are a few cases in our experience which now that you have a law in Checks you can at any time corroborate —

Did Edison house up brilliantly the other night to show to a few of our people — It was perfect worked the sewing machine also, with a hand lamp to see to sew by — It was a grand success The system now so far more complete and simple than we ever expected

Yours —

W. Hatchector

Menlo Park N.J.
Dec 9 1879

My dear Johnson. Your letter of Dec 5 was 6
received and immediately cabled you "much
more than London, Sure enough Glad"
I shall send you Edisons this morning
some time. I mean by mine that we
have got over all most of the difficulties we
can suggest and have it now absolutely
a fixed — I have lighted Edisons
house brilliantly, and run his sewing ma-
chine also worked his pumps for tank all
at same time. Have taken off all the lights
but one I have stood on the verandah
& saw the whole place in darkness or lights
up instantly at will by a switch
has been seen by our most prominent men and the
consequence is you cannot buy a share
of the stock for $1000 — the economy is
perfect far more than we ever thought
if you could but see the lamps — so simple
so cheap, so good. I am not going to
give it away as yet but you shall know
all fire

[illegible] the
[illegible] complete [illegible] camps
[illegible] be in [illegible] short
houses and [illegible] of field
[illegible] and let them [illegible] themselves
[illegible] I am not over [illegible] and
[illegible] to be in [illegible] over anything
but I tell you [illegible] is a [illegible]
[illegible] can not have it right in our hand
If you want any information [illegible] do
everything I can — [illegible] about
hunt & Cable [illegible] Bateleo
New York will [illegible] here today
I think if [illegible] mean in
this matter — [illegible] for these
[illegible] in the Gulf or any one [illegible]
[illegible] not see them

/Bateleo

Boy waiting to take this to encure
[illegible]

3

Mch 4 1885

My dear Edison,

Regarding the claims —

If you remember my summing up of the whole thing was as follows —

Claims of Edison —

Cash claims

Canvassing & Sundries		15.345.58
Exp's		1389.42
Steam Indicator a/c		202.50
Experimental Dept. a/c		169.24
		$17.106.74
Also J. T. Fisher.	$453.00	
Russell etc	388.00	
Detective Work.	2175.25	
Loubrium fees	2075.00	
Sprague	2748.04	
Expts at stations	2212.18	
Lamp breakage	194.10	10.545.57
Total Cash claim		27.652.31
Tube C. claim	629.09	
Machine Works	5689.05	
Lamp C.	1077.94	
Machine Works.	1292.29	8.688.37
By Contract		100.000.00
Total claims of Edison —		$138.539.70

2

Claims against Edison Schedule D. E. & F.		6630.00
Increase of Parent Stock from $480,000 to $720,000 electrowins		47,050.00
Ditto from $720,000 to $1,020,000		47,880.00
½ Share in Jewell's name		525.00
Batchelors Stock First increase 3,810		
Second " 8688.40		12,498.40
Money in Illuminating C.		4000.00
Money in Isolated Stock		8,161.3
		$122,944.8

Claims of I.A.E.	$132,539.70
" against "	122,944.86
Balance in favor of I.A.E.	$9,594.84

This balance of $9594 — I have endea
to get Carter to agree to pay in cash + a
full paid stock to the amount of the
money called in, or 10% paid — The la
I find (and I have consulted Fowlkes on
is illegal and cant be done —

3.

Coster & inclined to myself to look at all the claims of Edison do work done; the benefit of which, can only be reaped by the Light Co therefore they should be paid without question; but he argues that Edison's obligations to take stock were just as much cash transactions and he proposes to settle the matter as follows:—

"Take back into the Treasury all Edisons interest in the last increase; then admit all Edisons bills; issue all interest of increase from $480,000 to $720,000 fully paid & include Llg. Co & Isolated as far as called, the balance to be carried to account of Edison against his claim of $400,000; then an agreement to be made by the Light Co with Mr Edison to pay him the balance before it pays any dividends"

Now let us see how this would work out.

4

The last increase { Edison	47.880	40% called
{ Batchelor	8.688.40	" "
In Russell's name	525.00	" "
	$57.083.40	

Take the above stock into the Treasury

Admit all Edison's bills —	36.340.68	
less Claims against Edison	6.631.10	
	$29.709.58	

Issue first increase full paid	47.050
Batchelor's first increase full paid but in which 50% is paid	3.810
Illy Co Stock full paid —	440.00
Isolated Co up to extent of the Calls	8.161.34
	$63.021.34
From this Deduct Claims	29.709.58
	$33.311.76

Edison's Claim	$100.000.00
	33.311.76
leaving	66.688.24

due to Mr Co which the Light Co agrees to pay him before it pays any dividends.

It seems to me Edison that it is advisable

5

for you to settle on this basis for many reasons, but two of which are important enough; first it relieves you from being called on for heavy contributions, and secondly it establishes the validity of our claim for 100,000 and gives an agreement to settle. You may say that they have no right to dispute the validity of the claim because they have accepted it & issued stock in your name against the claim; yet they have never defined what was really meant. When I read it over I am bound to confess I felt as if we had by no means a sure case, and if it was sure, we might argue a long time before we come to a satisfactory agreement as to what time or at what period it must be due.

You know the Machine Works are liable to be called on for $2,000 (about) to isolate stock, & if those decree to make another call and I need to get this incorporated in the claims

6

so that we should be provided for but he does not see the policy of doing this as the Isolated Company has not made the call; however he promises that should the Isolated make a call he will do all he can with me to get our share put over against the balance to your credit on the books of the Co.

Now if you think that we do not need to retire all the $57,093 but for any part I should advise it as we are liable to be called on for the other 70% at any time.

I have talked over this matter with Lim-linson and he agrees with me that to relieve ourselves from liability and have the claim accepted is the best thing to do.

This ought to be settled right away as it appears to me that we shall arrive at a crisis soon for the Isolated

7

Co has come to an actual dead stand still and the Light Co spends annually £40,000 without a single particle of revenue coming in —

Don't insist on any cash in this matter at present as it is my firm belief that if they have to call on the stockholders for the 30% they will not get a quarter of it in = Answer quick.

What about that outstanding interest which was to be paid to you? I have avoided all mention of it & perhaps Oster has not seen it, however we must see to not make the settlement be in "full of all claims" if you think there is a chance for it

Very truly Yours
Chas Barkeloo

Oct 6 1880

Edison Lamp Co
East Newark, N.J.

Gentlemen, Please place to the credit of the Edison Machine Work $600 of the $1200 now standing to my credit on your books and notify them of the receipt of same. Please send me check for balance or part.

Very truly Yours
Chas Batchelor

16

214 E 18th Street New York. 1885

My dear Mr. Ram,

The information I can give you would embrace every branch of manufacture, improvements & developments in the exploitation of the system, information regarding patents - interference & lawsuits and any thing you might desire to know - to collect these informations & put them into such shape that you can utilize them & take advantage of them I think is well worth a sum of $1500 per year or $125 per month — There would be no outside expense except in the case that you wanted something very quick & I should have to get some extra help, even then I should only do it after advising you. A few of the things perhaps valuable at present are: —

1st all figures and drawings for the new standard type of machines.

2d Any information you want in large manufacture.

3 Any information that you may want on the underground system —

4 Description with working drawings of the individual incandescent light direct system —

5 The inside points on small stations, why some pay and others do not, or what is now being done towards building stations that pay a dividend the first year

6 Description with working drawings (if necessary) of any new fixture apparatus

7 Contract prices for all kinds of work & cost of manufacture —

8 Information relating to patents with full particulars of any patent points that come up in the great law suit that we are going to commence.

9 Particulars of Railroad work, which we are just now spending a great deal of money on for the Electric Ry Co.

3

In fact I should like a kind of consulting engineer for you, ready at all times to get you any information of whatever kind and always on the look out for anything that will be of benefit to the French Companies. My position here as an administrator in all the Companies, & a partner in all the factories allows me facilities for information which no one else has. My interest in the French Companies makes me feel that they ought to be able to utilize the experience here, and as I know they have the right to all information of any character I as an administrator of the French Companies desire my shares have it

Very truly Yours

Chas Batchelor

Louis Rue 97
C. C. Caumartin
Paris

87 Contract.

Apl. 6th 1885

Mr. Porter.

As the 'Contract' is a sort of open claim for all parties, and in order that no misunderstanding may occur in the future, I would call attention to two things which perhaps ought to appear in the contract, although they are not included in the present 'Claim', in order to show that they do not come under the provisions of Article first paragraph second.

They are, first:- The continuing royalty for lamps accorded to Edison after certain payments as set forth in Article 6 of this second contract.

Second:- The cost of producing the Municipal system of lighting which now stands on the books of the Edison Machine Works & which has never been charged to any one but which must be paid for of the lights or its assignees before I can have been allowed

in the matter) that at the end of the 3d clause
there ought to be inserted these words:—
"Save however that nothing herein contained
shall affect the obligation of the said Edison
Electric Light Co to the said Thomas A. Edison
contained in the sixth article of the contract
between said Co and the said Edison dated
the 12th day of January 1881 so far as the
same refers to the payment to the said
Edison of 2½ per cent on the cash in-
come as provided in said agreement;"
and also that nothing herein contained
shall prevent the said Edison Machine Wks
from rendering a bill (and being paid the
same) of expenses incurred in producing
a new system of Electric Lighting and
known as the Municipal system, the
cost of producing which now stands
on their book, but which has not been
made the subject of a claim and
cannot be made the party or parties

3

of the first part shall decide to adopt it."
The fourth clause in the contract is found objectionable. Edison does not waive the claim but the Edison Light Co. acknowledging the debt Edison receipts the terms of payment therefor in the fourth article after the words therein referred to in the eighth line from top should be erased & the following inserted:- "to wit the sum of $6,750.70 which sum the said Edison hereby agrees to receive in lieu of the said sum of $100,000, the Light Co. hereby recognizing the said sum of $6,750.70 as a debt of said Co. to the said Edison which it hereby promises to pay before paying any dividend on its capital stock."

[illegible] meeting [illegible]

69/83

214 E 18th St. New York Apl 22nd 1885

Louis Rau Esq
Admr Delegue
Societe Electrique Edison
Paris

Dear Sir,

Your of Apl 8th received. I accept the proposition you therein make to me, and will immediately take steps to collect (and put into such shape that it will be valuable to you) all the information you want relative to Lamp manufacture and the three wire system.

Very respectfully yours
Chas Batchelor

Lamp tests.

214 E. 18th Street
New York. April 25 85

Société Electrique Edison
Paris -

Gentlemen,

It will interest you to know that an economy and life test of lamps is now being made at Philadelphia. It resulted from the Electric Exhibition of last year - In the exhibitions of Paris, London, Vienna and Munich many tests were made but all lacked the most important commercial feature, life of lamps at given economy. The Philadelphia exhibition of last year desiring to make more thorough tests and recognizing that they had not facilities nor the time to make these life tests, appointed a committee to make the same & continue them well after the Exposition had closed. The members of this committee are:-

Prof. Wm. D. Marks University of Pennsylvania
Lieut. J.B. Murdock U.S. Navy
Dr. G. M. Ward Philadelphia Gas expert
and Engin. L. C. Duncan U.S. Navy.

Sufficient money was provided to make the tests most thorough and exclusive on both lamps and dynamos.

All makers of lamps were invited to send some of the products of their factories

2

The Edison Lamp Co responded by sending 400 for the committee to choose from; the Weston or U.S. Electric Light Co responded by sending 100 lamps; Stanley of Pittsburgh sent lamps to the Committee to test but they did not want them entered for competition. The committee also bought some Woodhouse and Rawson lamps and put them into the test for their own information —

The committee took 50 lamps of each kind from the supply sent; from these 50 — 20 were set apart for the test. Each lamp was first measured to determine its efficiency, the spherical illumination being determined by 65 measurements on each lamp in different directions. The current and potential were measured in the usual manner, each lamp being measured at the potential specified by the maker. For the duration test the lamps are arranged in the circumference of a circle, each lamp being enclosed in a box which prevents accidental breakage, and enables them to expose one lamp at a time to the photometer

The room in which the lamps are burning is locked and sealed; two attendants sleep one on each side of the room and a watchman patrols around it night and day. A small glass window enables the watchman to note the time of breaking. The room is opened each afternoon by the committee (in the presence of the representatives of the competitors) and the lamps measured daily.

To insure good working a preliminary test was made upon a duplicate set of lamps. This was continued for 230 hours, and on this run Weston lost 11 lamps while Edison did not lose one.

The test commenced Apl 11th at 8·20 p.m. & consisted of Edison 20 lamps
Weston 20 lamps
Stanley 20 lamps
Woodhouse and Rawson 10 lamps

Apl 22. At the end of 258 hours the lamps broken were:-
Weston 11, Stanley 10, W+R. 5, Edison 0.

Apl 24 at the end of 306 hours:
Weston 11, Stanley 12, W+R. 6, Edison 1

Apl 26 at the end of 329 hours:-
Weston 13, Stanley 14, W+R 6, Edison 1

[redacted]

[redacted]

I will send you further reports of this test as they are continued as also of the dynamo test which will be commenced immediately

Very respectfully yours
Chas Barrett

Apl 26 1885

R. V. Picou Esq.

Paris France

Dear Sir, It is my impression that the bed and wardrobe came from 33 Rue de l'Opera when the company was first formed — I am not sure whether I paid anything for them or not and have no means of knowing unless they are charged on my account at the factory. If they are thus charged I shall be glad to get 40% of what I paid for them. If they are not charged I really don't remember whether I paid for them or not, as perhaps they belong to the factory — If I have anything else there besides these two articles I should be glad if you would accept of same as they never will be any good to me and perhaps they may be to you as you live there

Very truly Yours

Chas Batchelor

77 ~~94~~

May 3rd 1885

Société Electrique Edison

Paris France.

Gentlemen:

The board of directors of the Edison Electric Light Co decided about two months ago to bring suit for infringements against all manufacturers of and many users of incandescent lamps — Mr J. C. Tomlinson its special counsel for this kind of work was instructed to file injunctions immediately and Wm C. Ewart was retained to take charge of the whole thing — Mr Tomlinson has been studying the subject for the last two and a half years and is exceedingly well up in the details; his arguments have been submitted to Mr Ewart who entirely coincides and is of the opinion that our case is clear & that we must win — There are 16 fundamental patents involved and fifty form suits to be commenced in the first ot the U.S. company hearing that we were going to do this have filed counter suits on some minor details at the last moment — This company has been trying to make combination with our company for some time but they have been given to understand that no combination of any kind can be entertained until the patents have been vindicated

Yours truly

Chas Batchelor

PS. Enclosed find cuttings from papers. W. Mr. Ewart. C.B.

16/8

New York. May 4th 1885

Louis Rau Esq. Adm. Delg.
8 Rue Caumartin
Paris

Dear Sir,

In answer to your letter of April 15th in re Patents of Sawyer and Man, I have thought it best to give you the opinion of the lawyer employed by the Edison Light Co. on the matter, and therefore laid the whole matter before Edison with a request that he ask Mr Tomlinson to give him a report. This report I now enclose you and I believe you can rely on this information implicitly

Very truly Yours
Chas Batchelor

Statement of Mr J.C. Tomlinson
enclosed C.B.

Charles Batchelor Letterbook, Cat. 1331

This unbound letterbook covers the periods August-October 1881 and July-November 1883. All of the correspondence is by Charles Batchelor and is primarily in his hand. The book is divided into two parts. Pages 1-58 cover the period August-October 1881. Most of the letters deal with the Paris Electrical Exhibition of 1881 and with Edison's competitors in Europe. Pages 59-192 cover the period July-November 1883. Most of the correspondence concerns the operation of Edison's European lighting companies. Among the recipients in both parts are Edison, Sherburne B. Eaton, and Francis Jehl. The book contains 300 numbered pages and an index prepared by an archivist. Approximately 80 percent of the book has been filmed.

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Cable Aug 11th 1888

Edison New York.

Send two whole and one half machine hurry sand. automatic and tape send no more chandelier

Batchelor

19

Fcs 23.75

4th Cable.

Paris, 19 Août 1881

Monsieur Elie Lean
Paris

Monsieur,

Conformément à la procuration qui m'a été conférée par décision du conseil de "The Edison Electric Light Company of Europe Limited", datée du 19 Juillet dernier, j'ai l'honneur de vous prier de vouloir tenir à ma disposition la somme de F 17730.50

ce valant tant les frais à faire à l'Exposition Electrique suivant état des dépenses ci-après indiquées. —

Recevez, Monsieur, mes salutations empressées.

Reçu de Monsieur Elie Lean, au nom et pour compte de "The Edison Electric Light Company of Europe" la somme de :
F 17730.50. dix-sept mille sept cent trente francs cinquante centimes

Bills paid. — to Aug. 19th 1911

Sundry expenses	932.15
Freight bills	230.50
Large Engine and Boiler	2534.75
Chimney and setting	2701.20
Carpentry.	1000.00
Wiring expenses.	897.30
Power for small machines	2509.25.
Labor.	368.62.
Expenses and board of men.	1660.67.
For.	15.334.44.

Correct
Chas Batchelder

Palais de l'Industrie.
Paris - France.
August 19th 1881

Cable address
"Patchen Paris"

The Edison Electric Light Co of Europe Limited.
New York.

Gentlemen,

By virtue of the power vested in me by your Executive Committee on the 19th of July last to draw such sums of money as I might need from Mr. Leon of Paris for the expenses of the exhibition of the Edison Electric Light at the Paris exposition I have this day drawn seventeen thousand seven hundred and thirty francs and fifty centimes to cover bills already paid by myself on this account and which are in my possession —

I enclose copy of my letter to M. Leon, also copy of receipt for amount received also copy of schedule of A/c furnished to M. Leon with my application.

Very respectfully yours
Geo Barchelor

two enclosures,

Palais de l'Industrie
Paris France.

52 Rue La Bruyère
Cable address.
"Batchelor Paris"

August 22nd 1881

Major Eaton
My dear Sir,

Yours of the 9th received also numerous papers etc for all of which, thanks. We are progressing well and although backward somewhat we are more forward than the majority of exhibitors. The time for lighting has been set for the 27th but I am lit up every afternoon from 3 till 5. Swan has made one miserable attempt and Maxim not at all — It is the general remark of every body that we get hold of that we seem to have a complete system whilst any other exhibitor has only a "lamp" or a "machine" — We frequently find Swan's manager in our place studying our "processes for lamps", handling sockets, safety catches etc — We shall have to lose no time now or these fellows will steal all we have and use it right under our very nose. We find it is impossible to light up the garden spoken of by Messrs Barnum and Bailey as it is impossible to have it included as part of the exhibit —

Very respectfully yours
Chas Batchelor

P.S.

I wish also to call your attention to the fact that of all the lamps that have been sent here not one was broken — In Havre one of our barrels dropped about 10 feet in unloading and in that one, we found 2 of the carbons broken, This speaks well for the lamp as far as packing and shipping were concerned. All the barrels were packed a little different from each other and I was asked by the Edison Lamp Co to report on their condition after opening but each seems equally as good as the other —

Yours C.B.

Paris. 25th Août 1881

Major Eaton. Newyork.

My dear Sir—

I telegraphed Batson yesterday relative to the fire caused by the Lane-Fox wires. The circumstances were thus:— Lane-Fox is lighting up a reading room near ours and about ½ past eleven our watchman saw the fire and immediately called the firemen & had it attended to. Early in morning about 8 o'clock I was there; and a deputation of officials and scientific men shortly after came to our rooms to examine our wiring. ~~appeared~~ I went carefully with them right through our mains and branches showing and explaining our safety catch all through and after their expressing admiration at the perfect safety of the system I showed them that independent of this our wires covering would not burn and illustrated it by holding the wire in a flame until it decomposed the covering

Yours "Batchelor"

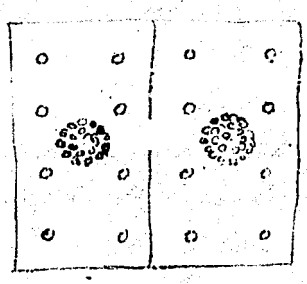
" Send you paper with picture of Edison

Dear Orion.

Last night we experienced what he meant when he said he had cut a "Bell of a Dance". The half light machine stripped off the brass cones and before we could do anything it tore off the cannon and bent up the bars considerably. This occured at 12½ o'clock. We immediately cut the belt and ran till 11 with the full light machine on the 16 & 8 light chandeliers. Our rooms were densely packed as they are every night but the short time we were stopped prevented any disturbance — At 11 we took out the armature and commenced the lining of it and at 3 o'clock daylight we began to run and continued till 11 without further trouble I never let the boys leave it until it was complete having all men ~~[illegible]~~ brought in to them and it was a great disappointment to Bros. Gray & Cooper & the crowd. I have kept them all night — ~~[illegible]~~ a little as we are ~~[illegible]~~ and I think I could be a great deal better if I had ~~[illegible]~~ Bro. ~~[illegible]~~ Headwall after dark since coming from Mars Rat — ~~[illegible]~~ my armature burned the ~~[illegible]~~ ~~[illegible]~~ just fever and I am laying up a strong day & take a little out

2

of the fields — In cutting they help to decorate the house. Our exhibit is made by 2 handsome glass chandeliers with 61 lights each, driven by the 500 machine, and 16 of our 3 light chandeliers placed as in sketch driven by the 110 volt machine —



Our lights the smallest room to ours with 425 lights about 200 of which are scattered round the walls the rest in pendants holding about 20 each near middle of room. The lamps are very irregular and ever since we have been here we have been weeding them out. They are very irregular in size yet and so we have it dark in our room ~~they have into rooms~~ we never fail to point out the difference to visitors by first taking a good look at theirs and then turning towards the chandelier where we have 200 in a small space. Although we have picked them out there is not a particle of difference in their intensity — they have lasted as yet first of course it is hardly fair to say — Mr. Lem was in for the first time yesterday and congratulated me on the success of

the light as compared with others — I went down to Swan's and Manning's with him and showed him the objects which he appreciates highly. They can plainly see that we have got the whole complete while others have only got a lamp or a machine, and even their lamp does not begin to compare with ours.

We have lately rubbed against the "Assisted Royalty" in the shape of King Kalakaua who expressed himself very much pleased with the light. We showed him also the speaking telephone and the Mutograph — We could keep these fellows easy enough to see all the apparatus but there is always such a devil of a crowd in the place that they want to get away. I have hired two men who speak French and German to do nothing else but explain the things as the boys show them —

Garibaldi has been here and expressed his intention of coming again in the morning to have it all explained to him. I believe he is a very large holder of Gas Shares —

I saw a letter from Cotter to Mr Fabri in which he said "We had finished the conclusion to accumulation and patented so as to supply those people now who will take your light rather

You can supply it from a station, for instance "Hire and Return" This I think is a very good idea. We have numerous applications here for it and if they could be supplied and terms fixed there are a great many places I am sure that it could be put in in Europe immediately — Bailey has applications from Brussels, Vienna, Lyons etc and if we do not supply them of course Swan and Maxim will. It takes so much time to make the plant and put central stations in operation that we ought to do something to secure the people beforehand I think also that it will be very much easier to form a company in any of these cities if a few people are using it —

I hear Brush has sold his light here for £2,500,000 to Credit Lyonnais — The syndicate have appointed their three engineers to go over our plant, one of them is "Clerac" of carbon pressure notoriety however as Bailey says he is a great friend of his and will do anything for him I suppose he is all right. We are to deposit £100 of Tom Crossley and the patent agent to me. I have had two or three interviews with these engineers and at present we shall have to educate them up to what we

have got before we make any tests but I have no doubt we shall be able to convince them that we have something worth securing— Gas here is sold at $1.80 per 1000 feet there is an enormous lot of it used in the streets and places of amusements but the public generally do not give it the place it would have if it did not give so much heat and spoil the decorations of the house the whole of Paris is supplied by one company who have a monopoly of the laying of mains etc which lasts 20 years more but the city reserve the right to break this contract if any better method of lighting should come up— Of all places Paris should be the best as every house is about 7 stories high with stores on the ground and private families in every floor each of whom would take the Electric light where they now use candles in preference to Gas because of its high price, deleterious effects, and above all the trouble experienced with the monopolist company Let me know your views about these isolated plants.

Yours

Batchelor

52 Rue la Bruyère
Cable address
"Batchelor Paris"

Paris Sept 3 1881

Major Eaton

New York

My dear Major,

Yours of Aug 18th enclosing a mem. of points on "Maxim infringement" to hand with thanks. Enclosed please find a scrap cut from "L'evenement" the P.S. to which is rather amusing. They say there, that by reason of a momentary insufficiency of motive force they cannot run their incandescent lights at present. Now in view of the fact that they have a magnificent 60 horse power engine (equally as good as ours at the Laboratory) and five large dynamo machines belted up to it this seems rather "thin" to say the least. They have great difficulty in keeping all their lights at the same light some being yellow and others white. I know his trouble, and could give him some points but as we have got them by hard experience I shall let him steal them in the same way as he stole our lamp.

2

The "Swan" people have a greater display than ours but not by any means as good. And of course his lamp alone stands nowhere against our system! His lamps are run anyhow as he has no idea of economy, and he has lighted up the British Commission Office. I cannot afford to give any light of our machines as I have barely enough, owing to the Dr Director draping our rooms (before I came) with dark red, which absorbs almost all the light. However I have tried some experiments on some Gramme machines here (made in Alsace) for the maker who wants me to light up his workshop in the Palais; the result is he will let me use some Gramme to light them, and also the American Commission Office, also Delbac's telephone rooms, and if I can put any more out in the exhibition I shall do so.

Our rooms are the sensation of the place as we have so many things to show that a man cannot get out in spite of our horn.

Yours respectfully

Chas Batchelor

Paris Sept 4 1881

My dear Major,

A firm of Engineers and tool makers named Heilmann – Ducommun and Steinlen of Mulhouse have got a small workshop in the Exposition (to show off their tools) driven by Gramme machines they are also manufacturers of Gramme machines and show a number of them off. I made an arrangement to light up their workshop if they could find the power to two days ago I lighted them up with 15 ½ lights and from the same Gramme machine I light up the American Commissions Office with 8 ½ lights and Dolbear's telephone Office with 4 ½ lights. They have another Gramme machine which they want me to use to day I light up M. Berger's Office and shall also light

2

some of the other Offices if I can

I would call particular attention again to the fact that all we have to offer to view; and in Europe the "light" will have to be exploited very quick or the other people will take all we have; for already Maxim puts a very small copper wire in his circuit in place of our safety catch, and Swan works his lamps in multiple arc, not in series as we suppose, his lamps give out often but only one at a time – Both Maxim and Swan's are very irregular and they keep weeding them out

Yours

Batchelor

2.2

— Cable — Angls.

Ekuoside Newyork = automatic apparatus badly broken tell able attend to money to Sueke wife how many different electros of apparatus here can you send and when

26 words
Fee $2.50

Chas Batchelor 52 Rue la Bruyère

Paris Sept 6th 1881

My dear ~~Major~~ Edison

The great necessity of something being done very quick impresses itself more and more upon my mind every day. If I could make arrangements to supply I could take a couple of orders per day of about a 300 light plant each and I feel terribly galled to think we have such a good thing and we have not even our manufactories started to supply anything. There is a large dry goods store here called the "Au Bon Marché." They use 5000 gas lights and they want to replace them with our lights, they have been to see it often and yesterday I went and inspected their building to see how it could be adapted to Electric Lighting I find they have tried Jablochkoff lights and Siemens' lights at an enormous expense and gone back to Gas their Gas bills average about-

2

138.000 francs per year. I told Bailey that I was going to see this place and he communicated with Leon, after which he told me that if this could be put in writing and I would make an estimate of about what saving could be made in this store and put the same into the hands of the Syndicate they would consider this as 1/2 of the test that we have got to make. After visiting the store I saw how easily it could be done and proposed to the "Bon Marché" people the following:- They to write me a letter asking me whether I could light up their place and what it would cost; also stating that they would like a preliminary trial of say 300 lights (for which we should have to put a portable engine in similar to what I have at present in the exhibition) for 3 months, and to submit to them an estimate for the expense to them

3

of such preliminary trial; that if they are satisfied with the light at the end of the 3 months they will give us an order for the whole store. To light their whole 5000 lights would take 920 horse power (the paris gas jet is not more than our half light at 9 candles). They have got excellent cellaring large enough for the boilers engines and dynamos etc and are very anxious to get it; their Chandelie are so arranged that I could very easily use them all for our light. Now in such a case as this I should advise the putting in of such a plant, as they would stop their engines and take current from the company's mains when they are laid; besides Maxim and Swan are open to all such offers and the reason they come to us is because we show the best light, and upon investigation they find we have a complete system —

4

Now for one more thing:- I have a large manufacturer in Rheims (the Champagne district) who has been here for about a week investigating the lights; he has one part of his factory lighted by arc lights driven by 8 Gramme machines and he wanted the rest lighted by our lights, altogether about 300 lights. If I could give him a price I am sure I could get the order immediately. He wanted to know whether I could use the Gramme machines he had; so I took him down stairs where I have the American Commission offices, Golbear's telephone office, a machine shop and Berger's office all lighted from one little Gramme machine (in all about 42 lights) I showed him our own machines and explained their greater economy. If we were manufacturing here I could secure him immediately at my own price; as it is he was

5

be gobbled by Maxim or Swan although in every case I take great care to point out every defect in the other systems — I have also a man from near Brussels wants 300 lights; one from Vienna 250, one from Strasbourg about 300 and lots more; how to supply these I would make special plants driven by belt as they care not for great economy — I have found that to run the small machines above 1200 makes them spark, but below 1200 with whatever load, they give no spark; so I have slowed down to 1200 and get my electro motive force by taking off a layer of wire on the magnets; you must impress this on the people using the isolated plants as it means that the life of a commutator is years instead of months — You must not think that because I write about isolated plants that I have lost sight of the primary object of this lighting-

6

that is, the lighting of cities in competition with gas; I merely cite cases that are outside of the gas companies (with the exception of the "Bon Marché") and as much the other people will take immediately they get the chance; for your own private information.

The engineers for the Leon party are making calculations and learning the method of Electric lighting on the multiple arc system. I think one of the best evidences of the originality of your methods is that these 3 electrical engineers have to study it out as a new problem that they have never believed possible before. We shall be ready for them to test in a day or two. We have got Berger to get from the "Conservatoire des Arts et Metiers" a dynamometer which we shall put in between the machine and the engine, we expect to get that this week; whatever tests our apparatus goes through I have got two or three

7

influential people in the Congress who will ask that the Maxim, Swan, and others may be tested also in the same manner, and I shall bring my photometer, Calorimeter etc for such tests if they have not any, which I know they have not; and I doubt whether they would know how to use it if they had.—

I have always given a great deal of credit for Arc-lighting to Brush but now we must be on the war-path for here he runs down our light terribly and tells everybody that the Swan light is the only incandescent light that is reliable and that Edison's infringes it—

When I talk on arc-lights the beauties of the Siemens and the Pilsen stand out in glaring contrast with the miserable flickering Brush light— I have had a visit from Mr Shillito the manager of Lord Salisbury's place and his Lordship comes to see me today— Shillito says

8

they have 150 Swan lights burning from a large Brush machine driven by waterfall 15 miles away I went all through the thing with him and they will want some of your lights to replace the Swan as I should judge from what he said they were not satisfied sufficiently to put any more in I gathered from him that they never knew what resistance the lamps were but, that they varied considerably but ~~that by putting~~ them out after putting them in they could make a pretty good showing. I measured a few of our lamps for him hot and they did not vary he was surprised at the completeness of our system but in his opinion economy is not the principle aim as his lordship spends his money in preference instead of horse racing — Edmunds of the Swan light had told him that they had not had one

break since they came to the Exhibition, I told him that they had some go every night and called Luebel and told him it and Luebel says come with me and we will sit down in his room a little while and see and whilst they were sitting there only a few minutes they saw three go. Shillito could not understand this as Edmunds had told him that they were put 10 in series so I told him that that was another item he had stole from us — Maxim of course is not lighted and has not been for a week so we can make no comparisons with him —

Now what I want to know from you is =

1 What do you propose for manufacturing for France?

2 Can you supply isolated plants for other countries?

3 Do you propose to work Europe

10

by agency or by separate Co.?
4 Will you entertain the idea of supplying these isolated plants and at what price?
5 Would you entertain the idea of putting our lamps on Gramme machines outside of France and thereby replacing arc-lights that are already running and at what price or royalty?
Also send me any information that you can that will facilitate matters.

Stabel heard Mr Lentz that is Siemens' manager say that he was sorry his firm did not go into the incandescent light 2 years ago but now he intends to do so as he sees what a good thing it is and besides he intends to go for Mr Edison in Germany on the fastening the carbon by electrolysis so we must look out for him

Yours "Balch"

Paris Sept 8. 1881 —

My dear Edison,

Received your cable today saying "will ship small outfit for Camp's manufacture" — Don't fail to give me your views on this as on other matters as soon as you have anything definite yourself —
I have entered in my book no less than six more firms in different parts of Europe who want the "light" and I tell them all that the policy of the company will be determined inside of a month when they will hear from us — Got hold of Prof. Wiedemann the Editor of "Poggendorf's Annalen" and spent all morning showing him around, invited him to make tests with us next week & I suggested that as a delegate to the Congress he should require that Swan's, Maxim's, etc should also be put under the same; he will do this as also I know Count Dunmoncel will also And I believe I can rely on Barker — We are the only ones here to ask a test of any sort and I shall lend my instruments to any one else that wants to be tested — Now — "Straws show which way the wind blows" as an instance the Faure battery people

Q

here have been running Swan lights all over the exhibition and they asked Walker Sec. of Comm Commission whether they could try one of ours that had been put in Comm Commission Office — They tried it and they said to him "why it only takes 3/4 of a Weber" as if it had taken a great deal more for Swans and they said to him "If that was the style of lamp Edison made he need not look for anything better"

Princess Royal of Prussia in last night and very much interested in light showed her also Phonograph, Mutograph, and singing telephone she was delighted could have kept her any length of time but tremendous crowd. The automatic instrument being left on table got all broken off and all chief stocks had all their spikes pinted out (can fix) —

Yours "Batch"

Paris, Sept 12th 1881 -

Mons. Cte Leon -

Paris.

Sir,

In accordance with the power conferred upon me by the decision of the Executive Committee of the Edison Electric Light Company of Europe limited dated 19th of July 1881 I have the honour to request of you to place to my credit at Drexel Harjes & Co of Paris the further sum of (F20,000) twenty thousand francs ——

Enclosed please find statement of disbursements made by me on account of Electric lighting at the Palais de l'Industrie since the date of my last drawing

Believe me sir
Your obedient servant
Chas Batchelor

Statement. Disbursements.

Statement of Aug 19th 1881

Fs. 15,334.44

Aug 19 to Sept 12th 1881

Sundry expenses.	Fs 714.58
Freight a/c	25.45
Wiring a/c	321.50
Engine and Boiler a/c	246.45
Small power a/c	3991.52
Labor a/c	262.60
Board a/c	597.73
Decoration of Rooms a/c	3150.10
Testing Instrument a/c	256.37
Carpenter Work	2278.64
Catalogue expense a/c	3600.00
	Fs. 15.444.94

15 444.94

Fs 30.779.38

Rec'd on a/c Aug 19th 1881

Fs 17,730.50

Paris. Sept 18. 1880.

My dear Major,

Your letter of the 30th to hand. You are perfectly right in giving Bailey credit for his work here. Bailey is a most indefatigable worker — I have tried all this week to bring Bailey and Fabri to work together and I think we may succeed. I told Mr Fabri that if Mr Bailey had the backing of a house like Drexel Harjes & Co it would be difficult indeed to find a man better suited to the work.

This exposition is a very expensive business and with all the care I can bring to bear on lessening its expenses it is still very great. I have again drawn on Mr Linn for money, this time for twenty thousand francs. My disbursements have been as follows:—

Previous disbursements to Aug 19th Fr. 15,330.44

Aug 19 = Sept 12th —

Laundry expenses	Fr. 134.58
Freight a/c	25.45
Wiring a/c	321.50
Gas and Boiler a/c	246.45
Small power a/c	3991.52
Labor a/c	262.60
Men's Board a/c	597.73
Room Decoration a/c	3150.10

2

Setting Instrument a/c	256·37	
Carpenter work. a/c	2248·64	
Catalogue expenses a/c	9600·00	15,444·94
Total disbursement		Fr. 301,779·38

I have drawn on Aug 19th 1880	Fr. 17,730,50
I have drawn on Sept 15th 1880	20,000,00
	Fr. 37,730,50

I am just as economical as possible but Paris I believe to be now the dearest place for anything in the world, and everything about the exhibition costs three times what it is worth. I will give you an example:— My carpenter brought me a bill for Fr. 3547 — I objected to it as it was too much, he would not take off a cent, so I told him I should have it revised by the architect of the Palais; this revision brought the bill down to Fr. 2247 which I made the man accept after a great deal of trouble.

The intention was between Bailey and myself to put the injunction on Doan a few days ago but Mr Bell and Mr Lowery appearing on the scene and Lowery not wanting to have it done till he could investigate prevented us doing it — I think myself it is better as in such matters although we have a clear case it is well to have it looked into by such men

Yours Batchelor —

Paris Sept 18th 1881

My dear Edison,

As your telegram requested me to try and bring Bailey and Fabri together I may say I have been at that very thing for a week – At first they would not listen to such a thing at all – but now I think I shall succeed – The proposition which Fabri had and was preparing for the company's consideration I was asked my opinion of by them, what they proposed was entirely inadequate for the working of such a thing as this is; after a couple of hours talk they abandoned it altogether and from what Mr Fabri says I should judge he considers it impossible to raise 5.000000 francs for manufacturing purposes, I showed them that they can not do it for less. They are now at it again. Bailey is pushing ahead ~~again with the proposition~~ and as I told Fabri the other day if he only had the backing of a house like Drexel Harjes ~~and Co~~ it would be difficult indeed to find his equal here — They know he is a hard worker but of course they feel that they would not like to be connected with him – However I expect they will eventually come together and I hope work well as this thing ought now to be settled once started — I have met ~~Dubois Raymond~~ Dubois Raymond and in him you have a friend of course just now

almost all my time is taken with these professors as we want them to thoroughly understand our apparatus as many of them will be jurors —
Prof Letsche has been here and gone to Switzerland —
We have plenty of friends and also enemies —
We make a lecture every morning on the apparatus and illustrate it by working it —
All the good scientific men are going to test our apparatus for publication —
Have just got the little machine and am putting it up — Dont fail to send me the actual cost price at our works of the 110 & 62 volt dynamos also send me full price lists of wires (copper) as it seems dear here also costs of lamp manufacture (latest) also from Bergman and Johnson prices of everything —
I have asked the Lem people to put a man in my room at night; also one in Swan's, and one in Maxim's, unknown to us, to see what breakages there may be, I expect they have done so
Cable you today:— getting bids for dynamos. small gramme runs 50 half large firm mulhouse wnt put 10,000 on lamps on gramme machines their make now running are lamps in Germany fix price lamps & Royally swan stands ready tried for week bring abatement & adjourn together think shall succeed send 1500 half. with sockets opera send actual cost small dynamos.
Yours Batchelor —

Edison New York :- getting bids dynamos
small gramme runs fifty half large firm
Westhouse wish put antagonism our lamps on gramme
machines their make now running arcs in germany
fix price lamps and Royalty Swan stands ready
tried for week bring abatement and abdomen together
think shall succeed send ancient halfs with sockets
opera send actual cost small dynamos

58 words
Fee 62·5

Anglo.

Eckuside Newyork :- Abatements idea small only men has got an same abdomen is working they expecting get it much less through abatement Abdomen plan good for large and quick manufacture

31 words
Fes 38.75

Sept 19th

38 ave de l'opera.

My dear Edison,

Received your cable this evening:— "Edison machine costs charge Edison Electric Light Co of U.S. $500 actual cost to Edison Mach. Mfg. $300 $50 Edison Electric Light of U.S. Charge $1200 dynamo regulator and sixty full lamps and supply lamps thereafter for $1 each— Charge Mulhouse $1.50 per lamp this includes our royalty send copy Siemens german patent plating carbon & wires Prof Letsche now at exposition is our german expert see him"— The clause ($50 to Edison Electric Light Co of US) I dont understand; please explain:

In view of the fact that Swan charges 25 shillings for each lamp I think I shall make a uniform charge of $1.50 per lamp delivered free on board in New York all over Europe until the regular company is started and got its agents out working

Yours Batchelor

P.S. Of course you will put everything free on board in New York B.

Sept 25th 1881

My dear Edison,

You cables all to hand and and although dilatory in answering occasionally it is not because I forget them — Bailey and I are attending to the Siemens matter — Had Sir Wm Thompson, Dr Hopkinson and Dr Adams yesterday — very much interested — Bailey got pretty well to bottom of Swan matter and Lowery and Betts are now working it up still further — See Electrician Sept 17 — Sprague came here and I find he has sold his patent in America to U.S. Lighting Co for $100 he says he had beam meter in use 10 years ago for measuring deposit in large plating baths — he had an idea that he was selling his meter to Edison when he let them have it. What shall we do with him? I have not got that caveat with previous mention yet — See Electrician Sept 24 Rowland's article do you recognize the experiment? — Engineering going to give us good article with about 30 cuts in elegant style hard work to convince these fellows but after they were convinced they enthuse like the devil —

— Batchelor —

Angle-American

Ekuside Newyork:- Abner away we never solicited but were invited light opera swan since got permission light one chandelier in there with other lights for three days ours for two months ablutions engineers request cost, size weight of everything used in system send quickly

44

Chas Batchelor 32 Rue de la Bruyère

50

1st October 1881

My dear Edison—

Barker is working very hard for us— the main jury have delegated so much to make all the experiments and Barker has worked it so that there is not a single Englishman on the experimental jury in incandescent lamps. thinking this would not stand he has proposed Crookes who is very much opposed to Swan but who is favorable to Maxim however we are not sure he will serve— Barker is the only man who has done anything on testing incandescent lamps as will no doubt have it all his own way— He proposes to use my apparatus which I think will be accepted—
I have carefully sounded Barker and he evidently depends on something you have said to him before— anyhow he is working hard for us and ought to be taken care of as the others would gladly get him if they could—

The Doctor I am sorry to say is a perfect failure. I have had my hands full ever since I came here dispelling ideas he has put in Bailey's, Fabri's and Lowery's head at different times regarding the worthlessness of our patents and I think there can be no greater damper to a big thing like this than to have a man like him around— a man who is always hunting up any weak points in our system and laying them before the very men whose confidence we want most I have had a number of rows with him about

2.

it but he evidently thinks he is doing good for the company — I will cite one instance of his injudiciousness — Some time ago, and after we had put the injunction on Maxim he got it into his head (from something Maxim's lawyer said to him; who he frequently goes to see) that we had better not press the Maxim case, as there was a probability that Maxim would give the whole thing to the world if pressed, because of the Fox article being published in Europe — I showed him our patent for spiral lamp of carbon which was at least 1 month before Fox letter could have been written and thought I had convinced him — For all that he rushed off to Fabri and Lowry and raised their fears on it so that they come to me to see if there is anything in it — Now Fabri is that kind of a man that if you put such an idea into his head it is difficult to get it out again — The doctor has kept me busy with such things as these ever since I have been here. If he would only turn his attention to getting articles in the papers he could put in 4 or 5 every day, but that he won't do and when I promise articles in French he says he will give them but never does — Altogether I'm afraid he is a failure

I see now the Engineer apologizes for the nasty slur they gave us — Also they say that Swan showed the lamp to Sir Wm Armstrong not Sir Wm Thompson as I telegraphed you I guess it was an error in the Electrician.

Yours "Batch"

9th October 1887

Mons Elie Leon –

Paris –

Sir,

Enclosed please find statement of disbursements made by me on a/c of Electric Lighting at the Palais de l'Industrie, with amounts already placed by you at my disposal – Will you kindly further place at my disposal the balance at present to the credit of the Edison Electric Light Co of Europe Limited

Very respectfully yours

1 Enclosure

Chas Batchelor

Memorandum of disbursements made by me from Sept. 12th & Oct 8th (inclusive) on a/c of Electric Lighting at Palais de l'Industrie

Disbursements to Sept 12th 1881		20 779.38
Sundrys Expenses	1241.85	
Freight a/c	453.45	
Wiring a/c	472.00	
Small Power a/c	1332.89	
Labor a/c	3244.83	
Board a/c	623.60	
Room decoration	91.50	
Test Instruments	1490.40	
Large Dynamo	252.00	
	9202.52	
		9.202.52
	Fcs.	29.981.90

Rec. on a/c

Aug 19th 1880	Fcs.	17,730.50
Sept 15 "		20 000 00
	Fcs.	37.730 50

Oct 27th (1881)

24 Rue Berlioz

My Dear Major Eaton,

On the 9th of October I wrote the following to Mr. Leon —

Sir,

Enclosed please find statements of disbursements made by me on a/c of Electric Lighting at the Palais de l'Industrie, with amounts already placed by you at my disposal. Will you kindly further place at my disposal the balance at present to the credit of the Edison Electric Light Co of Europe Limited. Yours &c.

Enclosure

Memorandum of disbursements made by me from Sept 12th to Oct 8 (inclusive) on a/c of Electric Lighting at Palais de l'Industrie.

		Fcs.
Disbursements to Sept 12th 1881		30479
Sundry Expenses	1241.85	
Freight a/c	453.45	
Wiring a/c	472.05	
Small power a/c	1382.89	
Labor a/c	3244.83	
Board a/c	623.60	
Room decoration	91.50	

2.

Test Instruments 1490.40
Large Dynamo 2352.01
Fcs 92.02.52

9202.52
Fcs 99.985.90

Rec'd on a/c
Aug 19th 1881 Fcs 17.730.50
Sept 15th " 20.000.00
Fcs. 37.730.50

This letter has not been responded to as yet but Mr Bailey told me there was only Fcs 4.000 left to draw and this sum I have got from him and left him to get it from Leon. So you see I have drawn Fcs 41.730.50 or about $8087.30 — You of course will know better than I do whether this is all I am entitled to draw —
I have at present disbursed about $3000 more than this sum and I dont know who to apply to for it. I may also say that before the 15th of November (the day of closing) I shall have to disburse considerably more so if you could telegraph me to get what I want from Messrs Bailey Auj Pukas and have it charged to the Edison Electric Light Co of Buenos Ayres Limited it would help me out as by that time my private funds will be about exhausted

Of course I am expending nothing on the Opera house Bailey & Pustkau doing that entirely themselves —

For some time past Mr Lowery has been here and working hard on the contract; of course his value on that is great and he is handling it in such a manner that by the time he is through with it I believe there will not be a single sentence that both parties do not see in the same light, and which is not incapable of any other translation after a few years have gone by. He is very anxious to get away from here at present as if he stays much longer it will be getting well into the winter. He intended to go by the Alaska this week; but if he goes now it will probably bust this contract and I have told him so, he has therefore decided to stay and see it out —

The big machine works well with 450 full lights on, and we have as yet no trouble. I add on some every day and shall soon get her loaded up.

Many thanks for your letter of information Mr Leech called —

Yours respectfully

Chas Batchelor

1

Nice July 3 1883 ?

Monsieur le Comte Du Moncel.

Mon cher Comte.

Je vous écris ces lignes, ainsi que je vous l'ai promis, pour vous faire part des perfectionnements qu'Edison a apportés à son système d'éclairage électrique par incandescence depuis l'Exposition de 1881 époque à laquelle j'ai eu le plaisir de vous expliquer le dit système.

Il serait peut-être bon de bien indiquer d'abord quel a été le but d'Edison en créant son système d'éclairage électrique afin que l'on puisse voir clairement sur quels points ces perfectionnements ont porté.

Dès le début de ses recherches, Edison a indiqué les points suivants comme principes fondamentaux :

1° Chauffer un conducteur jusqu'à l'incandescence comme moyen de produire de la lumière.

2° Diviser, dans la pratique, le courant au moyen de conducteurs de haute résistance portés à l'incandescence.

3° Connection des lampes en **dérivation** ou **quantité** comme moyen de rendre chaque lampe **entièrement** indépendante des autres.

4° Machines à courant continu placées également en **quantité** comme moyen d'obtenir la division des unités génératrices, assurant ainsi la régularité absolue du fonctionnement et le maximum d'économie

en raison directe de la force employée suivant les besoins de l'éclairage.

5° La mise en pratique, au point de vue commercial, de ces principes comme moyen de diminuer le plus possible les frais d'installation tout en ayant le maximum de rendement.

6° Avoir constamment égard au rapport qu'ont entre elles les différentes parties du système afin d'obtenir un bon rendement ~~efficace~~ en même temps que le maximum de simplicité et de perfection dans l'ensemble.

Ces principes fondamentaux ont en raison des critiques les plus sévères et de la plus âpre concurrence et aujourd'hui ils sont acceptés comme absolument concluants par tous les premiers experts en matière d'électricité. L'ensemble du système Edison dont vous avez vu toutes les parties intégrantes lors de l'Exposition de 1881 a pour base les principes que je viens d'indiquer ; ce système était susceptible de procurer de grands bénéfices au prix que coûtaient alors les autres systèmes d'éclairage connus.

De même que pour toutes les grandes inventions, il ne fallait pas s'attendre à ce qu'un nouveau système d'éclairage domestique pût atteindre, du premier coup, le plus haut degré de perfections ; toutefois personne mieux qu'Edison n'a réalisé ce desideratum et il continue toujours, avec une ardeur nouvelle, ses expériences, surtout sur les points suivants

1° Diminution du coût des conducteurs en cuivre par l'augmentation de la résistance des lampes.

2° Diminution du coût des dynamos par l'augmentation de la production du courant électrique obtenu d'une quantité donnée de cuivre et de fer en trouvant le

rapport réel de ces deux matières entre elles, et de la masse avec le courant lui-même.

2° Diminution du coût total de l'installation par l'augmentation successive de la durée des lampes.

Pour se rendre compte des progrès réalisés dans cette voie par Edison, il est utile de se rapporter au tableau suivant :

Un Dynamo C qui, autrefois, donnait 1000 Lampes A					en donne maintenant	2000
Un Dynamo K	d:	d:	250	d:	d:	530
Un Dynamo L	d:	d:	150	d:	d:	400
Un Dynamo I	d:	d:	60	d:	d:	200.
Un Dynamo B	d:	d:	15	d:	d:	50.

Conducteurs

M.r Edison a trouvé un système de conducteurs composés de 3 fils ou plus avec lesquels il est possible de mettre 2 Lampes A ou plus en tension tout en les ayant absolument indépendantes les unes des autres. Ce système de 3 fils est actuellement en usage et son emploi est montré sur les Figures N.os 1 et 2.

A est une machine-dynamo Edison donnant 220 volts en faisant un certain nombre de tours. 2 Balais P.P. placés sur chaque côté du commutateur fournissent le courant à 2 lampes A placées en tension ; un balai P' placé sur le commutateur à égale distance des 2 autres est relié au 3ième fil b qui est en connection avec les deux séries de lampes et ce fil agit comme compensateur du courant lorsqu'il y a plus de lampes d'un côté que de l'autre. En réunissant les conducteurs des maisons avec le circuit principal nous essayons de mettre autant de lampes d'un côté de ce fil compensateur que de l'autre b, dans la pratique, il passe très peu de courant par le conducteur b.

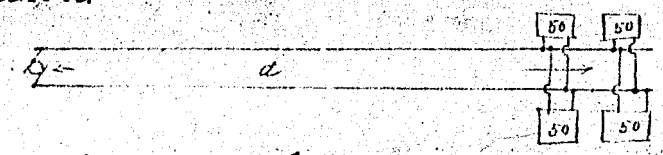
Figure 2 montre le système ci-dessus appliqué à une Station

b

Centrale où il est préférable d'employer deux machines au lieu d'une afin d'avoir l'unité de production aussi petite que possible comparativement au nombre de lampes alimentées.

Cet important progrès se traduit par une économie de près des deux tiers (62.5%) sur la quantité de cuivre nécessaire et cette économie est obtenue sans sacrifier plus d'énergie qu'auparavant.

Considérons, par exemple, deux cents lampes; par le système de canalisation à 2 fils la disposition générale est celle-ci



On n'emploie qu'une seule machine donnant 110 volts aux balais et on calcule le fil pour une perte de 10 volts, soit 10 pour 110.

Ce calcul résulte de la loi d'Ohm.

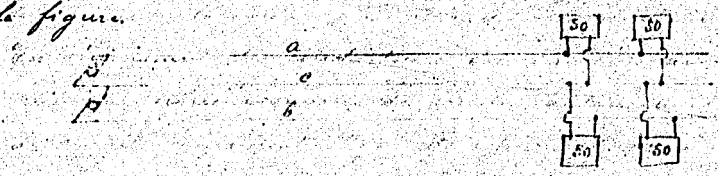
$E = R.I.$ D'où ici

$E = 10$ volts $I = 200\,i$, i étant l'intensité nécessaire pour une lampe.

On en tire $R = \frac{10}{200\,i}$

On tirerait facilement de là la section et le poids du fil.

Dans le système de canalisation à 3 fils, en se servant de deux machines, les groupements se font suivant la figure.



Si toutes les lampes sont allumées le fil c. n'est parcouru par aucun courant.

Calculons les deux fils a. et b.

Les machines en série donnent une force e.m. totale de 220 volts sur laquelle on peut sacrifier 20 volts, ce qui est la même proportion que précédemment (10 pour 110 - 20 pour 220)

De plus, l'intensité totale est seulement 100 i puisque les lampes sont effectivement par deux en série si le fil c. ne sert pas. La résistance des fils a. et b. sera donc donnée par la formule : $20 = R' \times 100\,i$

d'où $R' = \frac{20}{100\,i} = 4.\left(\frac{10}{200\,i}\right) = 4\,R.$

La résistance étant 4 fois plus grande que précédemment, il en résultera une section et un poids de cuivre quatre fois moindre.

Mais comme il s'agit de ne pas sacrifier l'indépendance des foyers lumineux malgré les avantages du groupement en série, on a été conduit à mettre un fil c. intermédiaire qui est relié au fil court qui réunit les deux machines. Alors, si le nombre de lampes n'est pas le même des deux côtés ce fil sera parcouru par un courant qui correspond à la différence entre le nombre de lampes allumées à droite et à gauche. Pratiquement, on a trouvé bon de donner à ce fil une section égale à celle de chacun des deux autres.

Par ce second système, on a donc au lieu de 2 fils pesant chacun 1 par exemple, 3 fils pesant chacun 1/4. L'économie de cuivre est donc de 5/8.e soit 62.5% ainsi que nous l'avions dit plus haut.

Lampes

Dans nos Usines de Newark N.J. (Etats-Unis) et d'Ivry s/Seine près Paris nous fabriquons de grandes quantités de lampes des types suivants

6.

Type	Bougie	Résistance en ohms	Courant en ampères	F.E.M. en volts	Watts pour 1 bougie	Watts par bougie	Watts par c.p. réel
A	32	96	1·13	102	5332	166⅔	6·19
A	16	137	·745	102	3366	210⅜	9·104
A	16	140	·747	105	3475	217⅜	9·5
A	16	121	·823	110	3665	229 1/16	9·0
A	16	102	·92	95	3850	242 1/2	3·5
A	10	203	·49	102	2217	221 7/10	14·825
B	8	69	·745	51	1683	210⅜	19·61
B	16	42	1·2	51	2715	169 11/16	12·15

Est rendu sur moins élevée par 440 kilogrammètres par seconde.

Mr Edison continue ses expériences sur une très grande échelle, observant à plusieurs centaines de lampes par jour, afin d'arriver à produire des lampes de plus longue durée & plus économiquement. Bien que nous ne garantissions qu'une durée de 800 heures l'expérience de nos clients & les essais faits dans nos usines démontrent fréquemment une durée moyenne de 2000 heures; quelques unes de nos lampes ont même eu une durée moyenne dépassant 6000 heures.

Régulateur automatique

On a reconnu, de bonne heure, la nécessité de trouver un moyen de régler automatiquement le courant dans les ~~champs magnétiques~~ électro-aimants des machines dynamo électriques, au fur et à mesure de l'introduction ou du retrait des lampes, afin de prévenir la perte des autres lampes du circuit.

A cet effet, Mr Edison a inventé l'appareil représenté par la Figure No 4 dont voici les dispositions essentielles:

7

Deux morceaux de fer à peu près parallèles pivotant sur un axe et servent d'armatures à 2 grands électro-aimants qui ne sont jamais excités en même temps. Sur l'arbre se trouve fixée une tige dirigée en bas dont l'extrémité est munie d'un contact à ressort qui, en passant sur un collecteur, introduit ou retire des résistances dans le circuit des ~~champs magnétiques~~ électro-aimants du dynamo. Un électro-aimant horizontal indique, d'après la position du levier de son armature, le sens du courant et, par suite, lequel des deux électro-aimants du régulateur est excité.

Cette disposition sera mieux comprise en se reportant au diagramme des ~~communications~~ telles qu'elles sont représentées dans la Figure N° 5 et dont voici les détails:

AA. BB. sont deux électro-aimants qui agissent sur la tige B, munie du contact à ressort R. de façon à introduire dans le circuit des ~~champs magnétiques~~ électro-aimants du dynamo, au moyen des connections TT', un ou plusieurs éléments de la résistance D.

L'électro-aimant C est placé en dérivation sur le circuit des lampes — aux deux points I et I' ~~placé entre ces deux points et le dynamo~~

L'armature I est disposée de manière à ne toucher aucun des points J et K lorsque le Dynamo marche à sa capacité normale.

Si la force e. m. dans le circuit se trouve augmentée, l'Armature I vient en contact avec la touche J et ferme le circuit; la tige B, attirée par l'électro-aimant A, introduit plus de résistance dans le circuit et en même temps, le courant allume une lampe rouge G.

Si, au contraire, la force e. m. est diminuée, l'Armature I vient en contact avec la touche K et le courant passe par l'électro aimant B. diminuant ainsi la résistance et allumant une lampe bleue H.

8

Cet appareil est très pratique et par son emploi la perte de lumière par suite d'irrégularités dans le courant, a été réduite à son minimum.

Montbello

3rd July 1883

452

J. F. Bailey Esq.
Hotel Continental.
Milan.

My dear Mr Bailey,

Yours of 29th ult. to hand.

Armington engines. We have got no further along with Armington at present. I have got a copy of a telegram from Howard to Edison saying that "Batchiler has the right to make as many engines as he likes pending negotiations for French patent by paying the royalty as paid by Edison."
Now, of course we are not in a position to go into building the smaller sizes, as we have as much as we can do to swing the 150 H.P. for C. Dynamos, or else we could just notify Armington that we were starting on as many as we wanted at present.

Engines. I do not, at all, confine myself to the Armington in every case. Condensing engines are good of many types, but I think there is a fault about a compound engine which I shall write to Rathenau about —(a fault which may not exist and, if it does, perhaps

3rd July 1883.

2

it may be remedied). The great thing is to have regularity and perfect steadiness; this we get in the Armingtons & we also get it at Brünn where we have two cylinders and only 105 turns per minute.

My new Corliss at factory only makes 82 turns has two cylinders and condenser & we have perfect steadiness. Farcot is building a Compound Engine to run 300 turns & stands upright; if this works well it will take up very little room.

What we want in cities is an engine that takes very little room, no counterbalts, having perfect steadiness of light and reliability. If Rathenau can do anything for us in the Engine line, I should be very glad to co-operate with him, because I think he is one of the most intelligent men we have got, and then the Germans are so far ahead of the French in these matters.

Pelary. My big engine is working and I am now busy increasing the output of the Lamp Factory. I shall turn out very shortly 750 to 1000 lamps a day.

Another 4 weeks will finish our first C. dynamo

Colonel Swan. I think that there will be, without doubt, a fusion

3rd July 1883

3

of interests in England with Swan & Edison, the reason is too long to write

Very truly yours
Geo. B. Selected

3rd July 1883

T. A. Edison Esq.
65 Fifth Avenue,
New York.

My dear Edison,

I acknowledge receipt of cable relative to sending "Form of Italian patent renewal."
This I have asked for 4 times & it has only just come to hand, it was sent off immediately.

Yours
Wm Sachetto

3rd July 1883

1471

John Kreuzi Esqr.
Electric Tube Works.
65 Washington Street,
New-York.

My dear Kreuzi.

Bradley. I think I shall commence on a Central Station here soon and shall be ready for him. I wish you would talk with him about the matter and see what his ideas are about coming here. Do not give him any promises as, of course, we could keep no promises unless there was perfect capability on his party. You can tell him this from me.

I want him help me to build a Central Station & work it perfectly for 6 months; he will have no one above him but myself. If he satisfies me in that respect, I believe I can leave him here in a very good position. Now on what terms will he do this?

My house. If you could get Claudius or Dr Haid to live in the one that Mr A. has left, I would let them have it for anything they will pay or for nothing till my return.

Yours truly, Edison

476

5 July 1883

Thos A Edison Esq

New York

My dear Edison,

I have had an analysis of our lamp breakages on pumps made and I thought it might be of interest to you.

Of all the lamps we put on pumps we have

91.2 good for testing

8.7 bad by breakage or other cause.

I have classified all these bad lamps as follows:—

1st. Pump broke.

2nd. Mercury ran up in lamp or,
Phosphoric anhydride up in lamp.

3rd. Spots and bright places in Carbon

4. Accident in any way such as bad handling etc

5 Stoppage of Mercury pump (Breakdowns etc)

6 Broke from irregularity of current

7 Carbon broke at x and the clamp begun to fuse.

2

8

Platinum wire passing glass cracking where marked

9

Carbon broke between the points A + B one single break.

A—

B—

10

Carbon broke between A + B one single break.

A— —B

11

Lamp cracked at sealing: marked x x

x x

12

Lamp exploded entirely where ~~the~~ marked

MS

3

13
Both platinum wires fused in glass & clamps fused

14
Carbons broken by air rushing in when taking off the pumps (between A & B

15
Carbons broken by man who seals off in any manner.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total Broken
A 10	5	5	4	9	7	1	8	34	86	4	2	4	2	3		144
A 16	49	24	21	67	18	15	30	71	97	7	15	27	19	10	5	475
A 32	14	4	5	7	21	2	22	64	24	2	3	11	11		3	193
B 8	66	9	12	17	46	14	13	38	118	3	4	5	4	2		351
B 16	3		5	10	15	4	9	9	7			3	1			66

4

As regards No 1 better pump glass from America has improved ~~that~~ wonderfully
As regards No 5 our new engine fixes ~~that~~ — (now running)
As regards No 6 " " " " "
As regards No 8 most of this is due to French Glass.
As regards No 9. this is large an hunting causes
As regards No 11 Very small considering ~~the~~ Glass we have had
As regards No 12 in many cases due to uneven thickness —

Very respectfully Yours
Chas Batchelor

445 J July 5 1883

Chas Dreydel & Co.
Stockholm
Sweden

Gentlemen,

At request of Mr Bailey I send you by this mail a few pamphlets on "Edison light". Shall send you some more in a few days.

Very respectfully Yours
Chas Batchelor

(July 4, 1883)

4 July 1883

Chas Porges Esq
My dear Sir Porges,

M. Leon refused to sign a receipt for the eight hundred shares unless you did also. I explained to him that you only wrote a few words on the receipts for the shares of the other companies saying that you had nothing to claim from Mr Baum or the Company — I thought at the time that he did not like to sign a receipt in English without you were there, as he does not understand it. I did not therefore receive the other shares and I have prepared a receipt in French which I enclose & which is

a copy of the English and submit
the same to you & ask you if
W. Leon signs it will you write
the same on this that you wrote
on the other receipts.
An answer by bearer will
oblige

Yours truly
Chas Batchelor

474

5th July 1883

J. F. Bailey Esqr.
Hotel Continental.
Milan

Founders Shares. Yours relating to founders' shares received. I enclose you receipt for founders' shares of the 3 Co. to be signed by Messrs Puskas & Bailey; please have this signed, witnessed and a seal such as we use in the United States attached, after which return to me. It is already signed by Puskas but he forgot the seal which I shall get him to put on after the return of the document. I shall receive the founders' shares of "Continentale" to morrow and shall do as you request, viz. send you Brisseau's receipt for the ones you told me to deliver to him.

On the return of this enclosure I shall deliver to Mad^me Puskas the balance personally.

Factory at Milan. I have just had a talk with Mr Porges; we spoke together regarding the factory at Milan and he thinks it is not a good policy to make a factory at present in Milan; I am entirely in accord

5th July 1913

(cont^d)

with him in that respect.
In order to have the cheapest and most perfect lamps I believe it would be better to make no more factories for lamps at present; I think the best thing for Italy would be a good contract price for them sent from here.

Very truly yours
Max Batchelor

478

6th July 1888

Major Eaton.
New York.

As you may not have received them, I send you by this mail copies of the balance sheets and resolutions passed by the stock-holders meetings of the 3 French companies.
The founders shares of the Cie Continentale will leave on Saturday.

Yours truly
Chas Batchelor

6th July 1883

479

F. R. Upton Esqr
Edison Light Co.
Newark N. J.

My dear Upton,

In your letter to me of 16th May - page 4 - you gave me a list of your regular sized fibers; you subsequently sent me 200 or 300 of each size, of which there is one that is $3\frac{3}{8} \times \frac{3}{1000} \times \frac{67}{1000}$ & another $3\frac{3}{8} \times \frac{3}{1000} \times \frac{13\frac{1}{2}}{1000}$. These fibers are cut so L your moulds must be that long; is that the size you use or is ~~you~~ better right?

Notice also that the 10 candle fibers are $6\frac{1}{2} \times \frac{10\frac{1}{2}}{1000}$ instead of, as your letter says, $6\frac{1}{2} \times \frac{9\frac{1}{2}}{1000}$. The 100 Candle fibers you sent me are 11×72 instead of 12×70 as your letter says. Is this right or do you want to palm off some old stock you have made a mistake in? because there is a considerable difference in sectional area.

You have sent me some $4 \times 11 \times 28$; what are these? you do not mention them in your letter.

Yours Ch Batchelor

2

I have made an Order which I intend to send to the Lyons Co for 30,000 fibers cut – to bridge over the time I am making my moulds – but the fibers you sent me so widely differ from the figures given me in your letter, that I am afraid I shall get a lot of stock I cannot use.

Yours truly,

Charles Tuckett

480.

July 6 1883.

Mr. A. Edison &

Newyork. –

My dear Edison,

I am a good deal worried about the life of our 10, 32, 50, & 100 candle power lamps. – I do not know whether this is new to you, but our ordinary 6½ x .008 x .014 fibre when carbonized has a surface of $\frac{14}{1000}$ of a square inch for every candle of light; our 10 candle since you made it 6" long has still only $\frac{14}{1000}$ of a [] inch surface per candle; our 50 candle has only $\frac{6}{1000}$ of an inch and the 100 candle has $\frac{4}{1000}$. – Whoever calculated the fibres did not take into consideration that all fibres of bamboo shrink in carbonization 50 per cent. in width; whilst in thickness they only shrink 28 per cent; and in length 22 per cent. – If Upton will study these differences of shrinkage he can make a much better carbon for different candle power. – It is not difficult to keep the surface per candle power the same & still keep same resistance.

Very truly yours

Chas Batchelor

L.C.

9th July 1883

Richard A. Dyer Esqre
65 Fifth Avenue.
York.

Dear Sir

I duly received your letter of 30th ult. contents of which are noted; the matters referred to therein shall have my best and earliest attention.

Yours faithfully.

Chas Batchelor

482

9th July 1883

T. A. Edison Esqr.
65 Fifth Avenue
New York.

My dear Edison.

In reply to your question whether Epstein sends me curves I would say No! he does not, and what is more, all the curves he gave me in a book are absolutely worthless because he never gave economy, also never gave me a curve later than 14th October 1882 which is 8 months ago.

Very truly yours
Chas Batchelor

4853

9th July 1893

Francis R. Upton Esqre
Edison Lamp Co
Newark N.J.

My dear Upton,

I have never received a lamp curve from you since I left and I would call your attention to the fact that all the experimental curves that you gave me in a book were absolutely worthless because you never gave their economy, also the last one is dated 14th October 1892 – this is 8 months ago!

Yours faithfully,

Max Bokhela

484

9th July 1883

Messrs Waterhouse, Winterbotham & Harrison
1 New Court Carey Street,
Lincolns Inn. W. C.
London.

Gentlemen,

In reply to your favor of the 6th inst. I regret to say that I am quite unable to go over to London as you desire, my presence at the factory here being absolutely necessary at present. If you will be kind enough to let me know what information is needed I shall have much pleasure in furnishing same.

Yours faithfully.

Chas Batchelor

10 Juillet 1882.

485

Major Eaton
65 Fifth Avenue
New-York.

My dear Major.

I send you to-day through Wells, Fargo & Co a case marked M.B. 1 gross weight 154 lbs containing 5174 (Five thousand one hundred and seventy four) Parts of Founder of the "Compagnie Continentale Edison", said parts being numbered 1 to 5174.

I am informed by Mr Sorgo that I shall receive from him in a day or two the other 1600 shares - being 20% - in the shape of a Certificate made nominative.

My receipt to them was for 6400 shares No 1 to 6400, of which 800 (No 5601 to 6400) I delivered to Leon & took his receipt which I now enclose. As you will see, this receipt is the same as the one you received for the other shares.

I have kept the shares for Puskas & Bailey and the 70 shares, as at present Mr Bailey is in Milan and Puskas here, so that I cannot enclose their receipt.

As regards the 70 shares I shall have no signature from L. as he informs me that the contract was made with another

(cont.)

party, I shall not deliver them until Mr Bailey returns. He also informs me that, when the shares are given, the contract will be torn up and no signature passed. I shall do nothing therefore until Bailey comes.

Yours truly
Chas Batchelor

P.S. This case goes by the s.s. Normandie, leaving Havre on the 14th inst.

11th July 1883

486.

Messrs Waterhouse, Winterbotham & Harrison
London

Gent.

In reply to your favor of the 10th inst. I write to inform you that I shall go over at the end of this week, either Friday or Saturday night. I shall wire you later on if I can go across on Friday night.

Yours faithfully.

Chas Batchelor

487 12 July 1883

Francis R. Upton Esq Manager.
East Newark
N.J. U.S.A.

My dear Upton,

Enclosed find Mr [redacted] life [redacted] for Cathode 6" x .00[redacted]" x [redacted]4" — Please ~~reciprocate~~. I have not moulds for the [redacted]½" eng.

Yours [redacted]

1 Enclosure

Very sincerely

A. 16 c.p.
5 July 1883
6" x .008" x 41¼"
16 c.p.

Volts	Amps.
100	97
97.5	121.5
90.77	0.277
87	15.8
75	41
50	41½
100.5	41½

Characteristic

64 5 Amps. 41¼

121
216
391
492
866

6.

Busks.

Mr. A. Edison Esq. 10 July - 3 (1883)

Sup Ores Edison, Menlo Park.

Inclosed test of 6" x .008" x .004" on wrote for requiring July Ores

Chas Batchelor

Bachelor

Ivry sur Seine
Manufactured 3 July 1883

8 lamps.

6.

64

16 cp.	64 c.p.
A16	..
6" x .008 x .004	
16	
188.	94
9x5	120.5
0.979	0.388
9.4	15.8
46	4.7
Ins. 1043	Ohm 4.04

x1

407

121
216
391
492
866

1x +1

2,

Breaks

+ −

Chas Batchelor

12 July 1913.

~~E. A. Johnson~~

New York.

Dear ~~Mr.~~ Johnson,

Thanks for the telephone shares, the lamps and balance received through Mr. Verity of London. I have to appear before that Parliamentary Committee in London & immediately

Very truly yours

Alex Batchelor

12 July 1883

Major Grant

Mr. Edison's Light Co. of Europe
(Limited)
New York.

My dear Sir,

Enclosed please find the receipt from Messrs. Puskas and Bailey for the "parts of founder" that you instructed me to give them by your letter of Oct. 7th 1882.

I hope to send you by next mail the "part of founder" nominative for the remaining 20 per cent of the Compagnie Continentale's parts.

The seventy parts I shall not deliver till I see Mr Bailey who is now in Milan

Very truly yours

Chas Batchelor

[illegible] 16 July 1883

Drexel [illegible] Paris

Gentlemen,

Please send by bearer a draft on London for £50-0-0 payable to James D. Batchelor and charge same to my account

Very truly yours
Chas Batchelor

292

Chnoside New-york.

Mail immediately dimensions all new machines

Batchelor.

Quai de Pare à Bry

18th July 1883

T. A. Edison Esq.
65 Fifth Avenue
New York.

My dear Edison.

New machines I cabled you to-day as follows:
"Mark immediately dimensions all new machines,"
which I can confirm and await your reply.
In regards this cable you will remember that as you did not see fit to send the model I saw to Germany, I am without accurate details of your changes and am working on my own judgement. Please send me everything as you make the alterations so that our machines will always be alike in every particular & will interchange as near as possible.

Italian Co. Your letter to me on Italian affair, I have sent on to Bailey praying him to get a settlement of same immediately and, if not there to give me all the help he can to get it settled here. I hope this will be done in the briefest delay.

Yours faithfully.

Max Sadeleto

18th July 1883

E. T. Edison Esq.
65 Fifth Avenue
New York.

My dear Sir.

New machines I cabled you to-day as follows:
"Make immediately dimensions all new machines,
which I now confirm and await your reply.
As regards this cable you will remember that as you did not see fit to send the model I saw to Germany, I am without accurate details of your changes and am working on my own judgement. Please send me everything as you make the alterations so that our machines will always be alike in every particular & will interchange as near as possible.

Italian Co. Your letter to me on Italian affair, I have sent on to Bailey praying him to get a settlement of same immediately and, if not there to give me all the help he can to get it settled here. I hope this will be done in the briefest delay.

Yours faithfully.

Chas Batchelor

18th July 1883

[illegible]

[illegible] Esq.re
Hôtel Continental.
Milan.

My dear [illegible]

[illegible] I delivered to your wife:

1: [illegible] Compagnie Continentale.
2: [illegible] Société Industrielle.
[illegible] Société Electrique.

I also handed her Rousseau's receipt for the following delivered to him viz.

1: 100 shares Compagnie Continentale.
2: 40 " Société Industrielle.
3: 40 " Société Electrique.

I received your telegram; I have heard nothing further regarding new models except that 100 light was charged $400 from Edison. I have not finished first model K but have Z machine giving 120 lamps and can furnish it at any time with very slight increase on ordinary price.

I am telegraphing to Edison to-day for further particulars.

The Société Electrique sends you to-day a letter from Edison to the Milan Co. praying for a settlement of his account; this he enclosed in letter to me and expressed himself very dissatisfied at the way they delayed payment of

(cont.d)

same. It seems to me that he has much reason to complain and, if you can help him to get this money, it will make him better satisfied as regards furnishing in the future. These people here cannot understand what you & I well know that Edison has made no money on supplying this material & he therefore naturally feels hurt that he should have laid out his money when he does not get it back promptly.

Yours faithfully,

Chas Batchelor

21st July 1883

495

Francis Jehl Esq.re
Löwengasse 53.A.
Vienna.

My dear Francis

Your letter of 17th inst. to hand. All the material for the Exhibition that has been ordered by the Société Electrique, left the factory on the 19th inst and as it goes by fast trains you shall receive it ere long. The Z armature is included in this shipment, and the frosted and ordinary lamps as well.

Yours faithfully.
for Chas Batchelor
J Burns

21st July 1883

496

J. F. Bailey Esq.
Grand Continental
Milan

My dear Bailey,

[illegible] telegram of 18th and my letter of 19th which you have [illegible]
I have been to England [illegible] last month and can find no machines of Hopkinson's [illegible] doing what is claimed in the report of Sprague. [illegible] report of No. 9 experiment was for 1 hour with [illegible] of course these lamps were not at 16 candle power or else the current in the lamp circuit – which he says was 14½ amperes would have been very much higher, but it was equal to only 130 lamps at the very most.

Now it is quite a different thing to run that machine for 5 hours (which it will be necessary to do) at such a number of lamps. The Z. I have made, I sell for 120 lights but I could run them very easily for an hour with 130 lamps. I cannot therefore say anything about Hopkinson's machines until he can show us them doing actual work.

I am engaged on calculating the smaller sizes and shall shortly give you some results.

Yours faithfully
For Chas. Batchelor.
J. Burne

1891 Juillet 22 3

M. E. [redacted] Paris

Monsieur

[redacted] vous trouverez un cheque pour [redacted] sept mille francs comme [redacted] paiement de vingt deux [redacted] qui vous avez versé pour mon compte le mois de Janvier [redacted] que je paierai le reste [redacted] bref delai.

Agréez monsieur l'assurance de ma considération très distinguée

Ch. Batchelor

July 23, 1883

23rd July 1883

148

[illegible] Esq.
[illegible]

My dear [illegible]

I have your letter of the 21st inst and am glad to see [illegible] for the follows that wont work; always do so.

Ran will write a letter to Kirkside to-day.

Yours faithfully
for Chas Batchelor
J Burns

23rd July 1883

499

J. Kruesi Esq.
Electric Tube Works
New York

My dear Sir

Your letter of 9th inst received and I thank you for information about Banks & Co.

Send me all the particulars as mentioned in your letter for 3 wire tubes. The letters patented April 10th do not make any difference, we shall simply file them off & put on in French "Breveté s.g.d.g."

As regards cross in Central Station mains, the first thing I thought of when I heard of it was: "Where were your safety catches?"

We shall put on all tubing we lay, safety catches on both mains.

Yours faithfully
for Chas Batchelor.
Burns

26 July 1883.

Messrs Waterhouse & Winterbotham
London.

Gentlemen,

I enclose bill for samples made & my expenses [illegible] during their trial was paid when I returned so that I could not have this bill sent before.

My expenses for the three journeys I have lately made are as follows:

July 14-16	—	298.00
" 18-20	—	200.00
" 24-25	—	198.00
		£ 696.00

which you can send me a check for at your convenience. I am sorry that the representation so much energy expended for nothing.

Very truly Yours
Chas Bancroft

~~501~~

26 July 1883

Mr. Edison, New York.

My dear Sir,

~~The~~ I my men bought a 100 candle Siemens lamp somewhere in Germany and I give you a ~~[illegible]~~ have made. When I got it I ~~[illegible]~~ tested as follows:-

Resist cold	42 ohms	
" hot	49.9	at 100 candles.
Volts	102	" " "
Ampères	4.45	" " "
Kilogrammètres	46.9	" " " ~~[illegible]~~ 440 for 4 Hrs
Lamp per Horse p.	1.6	" " "

At the end of 7 hours this lamp ~~was~~ rather black.

At the end of 25 hours it tested:-

Resist cold	44 ohms	
" hot	17.1	at 100 candles
Volts	115.2	" " "
Ampères	6.73	" " "
Kilogrammètres	79.1	" " "
Lamps per HP.	0.9	" " "

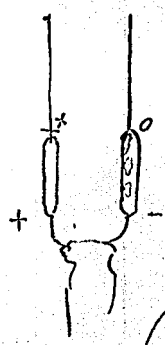
At 32 hours it broke

The length of carbon exact was 7.875 inches

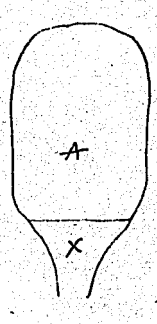
" Diameter averaged .026 of an inch but was $\frac{27}{1000}$ in some places and $\frac{24}{1000}$ in others —

2

Its section was like this; so much so that I am almost sure it was a bast fibre
Its surface for illumination was .6443 about or equal to $\frac{6\frac{1}{2}}{1000}$ of a square inch per candle –
It was fastened by platinum wires by a thick piece of fine plumbago paste baked hard –
The drawing is exact for length and width also for size of clamps.
It had 10 leading-in wires on each pole each of $\frac{7}{1000}$ diameter



It broke at X on the positive side carbon good in every way besides – the plumbago marked O was considerably torn as if it had been arcing
It got very black indeed before it broke in fact I believe the vapor of carbon (a-tower) conducted across where it was arcing
After it went the globe was perfectly black in A and not blackened at all at X



Very truly yours
Chas Batchelor

502

July 30 1883.

J. Henri Esq. Newyork.

My dear Henri,

I hear from Mrs Adams that there are two parties wanting to buy a little house in Menlo Park. They have had Grey's house offered to them but did not accept & asked Rodgers for a price for one of his bair he asked $4:000 cash for it. Swanson knows the people & asked Mrs Adams to write me about it as he thought they would sooner have my house. If you could do anything in the matter for me I wish you would and I shall be much obliged to you — The matter stands thus: —

I paid $4600 for the two houses & the lot they stand on of which $3500 was a mortgage held by the Mutual Life Ins. Co of Newyork at 7 per cent — I have spent $1000 in fixing them up making well, railings, drains heater etc — I succeeded in reducing the interest to 6 per cent instead of 7. some two years ago —

I will sell the two houses and the lot they stand on including the heaters and range in one side for $4500 — cash or $1000 and the party to assume the mortgage — All payments of taxes & and all payments of interest have been paid also all bills against the house of whatever sort — I will pay the interest and taxes up to 1st August 1883 or up to the agreement to take the house as signed as you can arrange it —

Since I wrote you the parties have too good

houses of which the rent will be

$210 interest

30 taxes

$240 per year for the two together –

Very truly yours

Chas Batchelor

July 30, 1883.

Cie Cont. 115

503

T. A. Edison Esq.
65 Fifth Avenue
New York.

"Patents"

My dear Edison.

On the 9th June last I cabled you as follows:
"Armengaud guarantees nothing I cannot give him two
"months prepare filing and cable particulars."
I wrote Dyer on this subject June 9th and as yet have no answer.

We lost in Germany [illegible] through not having sufficient time, thus as regards 63, principally from the fact that Mr Robinson had lost it in England. The Compagnie Continentale Edison also wrote to Dyer on these questions, on 11th June, likewise without reply.

62 & 63 (Meters & distribution) are all ready but I assure you we run great risks of losing them in Germany if you cannot comply with my cable of 9th June.

The German contract obliges the Cie Continentale Edison to give them all patents of Edison till 1886. and the loss of the above has caused them to threaten the Cie Cont.le with the consequences, if the same should occur again.

Will you kindly see that they get answers to requests in future as it causes me very much trouble sometimes?

(cont.)

Case 40. The German office has rejected claims 1, 2 & 5 on the ground that anyone can make these applications; the Co. Cont. appeals and hopes to get it.

As the German patent office seems to have remarkable ability for cutting out of our applications the best claims and leaving us the material that is worth nothing, I think I should advise our Compagnie to let the patent business there go into the hands of the German Co. who will keep experts to put these patents through if we wish even to do so.

Respectfully yours

[illegible]

July 31, 1883.

31st July 1930.

504

Major Eaton.

Pres. Edison Electric Light Co of Europe (Limited)

65 8th Avenue

New York —

My dear Major,

When I was in New York in the spring of this year I got the estimates for reproducing the working half of the present Central Station with its necessary mains. This Edison and I agreed could be done for $166,000 — this made quite a respectable showing and I understood that these figures should be sent to me in decent shape so that I could give them to our people — I have explained the figures that I brought but have never received them officially and the failure to send them causes me not a little annoyance sometimes — If you can send me these figures or if you can send me the altered figures (if you have altered them) I shall be obliged as it is very disagreeable to have such things occur as the following:— In talking of an estimate that I had made Mr. Borges made me the following remark "yes this looks good; but then when you came from America you told us that the working part of the Central Station in New York could be reproduced for $166,000 and when Mr. Meadowcroft came he said it would cost [illegible] Meadowcroft Co

direct from you as the Prest. of the Company he naturally thinks I have purposely tried to deceive him.
Please send me these new figures showing how it is increased to $255,000 —

Very truly yours
Chas Batchelor

(cont)

to deceive him.
Please send me these new figures, showing how it is increased to $255,000.

Very truly yours
(Sgd.) Chas. Batchelor

31st July 1883

505

C. A. Edison Esqr
New York.

Copy of letter sent to-day to Major Eaton

My dear Major

When I was in New York in the spring of this year I got the estimates for reproducing the working half of the present Central Station with its necessary mains. Chi, Edison and I agreed, could be done for £ 166,000

Chi made quite a respectable showing and I understood that these figures should be sent to me in decent shape so that I could give them to our people. I have explained the figures that I brought, but have never received them officially and the failure to send them causes me not a little annoyance sometimes.

If you can send me these figures, or if you can send me the altered figures (if you have altered them) I shall be obliged, as it is very disagreeable to have such things occur as the following:- In talking of an estimate that I had made Mr. Porges made me the following remark "Yes! this looks good but then when you came from America you told us that the working part of the Central Station in New York could be reproduced for £ 166,000 & when Mr. Meadowcroft came he said it would cost £ 250,000". Now as Meadowcroft came direct from you as the Chief of the Company he naturally thinks I have purposely tried

direct from you as the Prest. of the Company. He naturally thinks I have purposely tried to deceive him.
Please send me these new figures showing how it is increased to $255,000 —

Very truly yours
Chas Batchelor

(cont.)

to deceive him.
Please send me these new figures, showing how it is increased to $255,000.

Very truly yours
(Sgd.) Chas. Batchelor

31st July 18[illegible]

106

C. M. Harris Esqre
Station Centrale de Lumière Electrique "Edison"
Milan.

My dear Harris

I should be glad to learn in what condition things are at Milan and whether it would be possible for you to leave there and come along with me. Please write at once and let me know when you could come.

Yours faithfully
Chas Batchelor

July 31, 1883

31 Juillet 3

507

Monsieur le Comte du Moncel
à Lébisey près Caen

Cher Monsieur

J'ai l'avantage de vous retourner sous ce pli l'épreuve qui accompagnait votre lettre du 29 courant à laquelle j'ai fait les corrections nécessaires

Dans l'attente des épreuves des autres parties de votre nouvel ouvrage je vous présente, cher Monsieur, mes civilités distinguées.

Chas Batchelor

2nd Aug: 1873

Messrs J. Bergmann & Co
New York.

Dear Sirs

I send you to-day some samples of carbons I have been able to procure.

Sample marked No 1 costs 190 francs per 1000 pieces with 2% discount for cash at 30 days or nett at 3 months

Sample No 2 is just the same carbon but is called from the other and, I presume, would be very much cheaper if you buy here, all will be like sample No 1.

I send you also a sample of ~~[illegible]~~ carbon costing 15 francs per 100 kilos = 220 lbs.

All the above come from Mr Pierrard, 147 rue Pellepoit, Paris.

Sample No 3 comes from Mr L'Hôte, rue Margfoy 7, Paris and costs 200 francs per 1000 pieces first choice. 3% discount for payment on delivery or nett at 30 days.

All these prices are for not less than 5000 pieces at a time.

I enclose you the cards of these firms if you wish to order direct or I shall get them for you if you wish.

I am keeping your samples & shall try to get more prices.

Yours faithfully.

Chas Batchelor

P.S. As I have noticed these articles I cannot say if they are dear or cheap.

7th Aug: 1883

509

F. R. Upton Esq.
East Newark N.J.

My dear Upton.

Your letter of 24th July to hand with curves & sheets.

We shall take a lot of the carbon forms from you as there can be nothing fairer than that, and I shall see that they are unpacked well.

What do I understand on sheet "order 970" for carbon 6½ x 8 x 13/8 by the letters "p" "m." "d." "b." "sd." under columns "Carbon" "Clamp +" "Clamp −" and also under column "Size of carbon" 5 x 8? Is this its size after carbonization?

Yours faithfully.

Chas. Batchelor

7th Augt 1883

370

J. F. Bailey Esqre
41 Conduit St.
London W

My dear Mr Bailey.

Everything is all right as regards devis now – Mr Rew is perfectly in accord with me as regards cost &c &c I have another interview with Levy to-morrow

I have been away or I should have answered you sooner

Yours faithfully.

Chas Batchelor

7th Augt 1883

511

T. A. Edison Esqr
65 Fifth Avenue.
New York.

My dear Edison

New Dynamos. In the ordinary L. machines we have 60 ft lbs of energy (about) on every square inch of cutting surface. The same in the K & the others. This is equivalent, calculating from the L., to 230 circular mills of section for every ampere of current passing. As many of my machines are, I might find that this is as much as I dare put through them unless we use a blower. Your new H., as I learn from a letter from you to Mr. [illegible] gave, for a short time, 400 amperes and, from measurements given, I find that it had only 148 circular mills per ampere so, in order to be safe this ought to be a 320 ampere machine, eh?

The first new machine I made was 120 light, this was a well insulated B armature made 3 centimetres longer, with 3 inch cores 28½" long wound with 9 layers of No. 16 wire. At 1250 turns we have 105 volts with 90 amperes on. I can take 150 amperes out of this for a short time but sell it for 90 to be perfectly safe for long running.

After these measurements I have made

2

2 I machines for ships, which give their 150 lamps with 475 turns, this number being absolutely required by the Austrian navy.

Dickinson.

I must have your opinion on the value of Hopkinson's improvements; he is continually at Bailey about them, and Bailey seems as if he desperately wanted to give Hopkinson a royalty or buy what he has got. We have just a letter from him in London in which he says Dr H. has a K which gives 600 lights easy and they want me to go to Manchester to test it. I say the alteration of the length of magnet is not patentable and H. cannot claim anything on it & therefore it is useless to make a contract for a thing that is open to all.

To help to stop their mouths I am making my K with an armature a little larger in diameter which easily allows me to give a machine of 400 amperes that will run day and night & I believe this will equal what he has got.

I understand H. has said he should make a bar armature for this machine and take out 1000 lamps. If he takes them out in the same manner as Sprague's test of his dynamo I would not give much for it in practice at that number.

If you see anything in this that wants correcting tell me so quickly:- I dont feel satisfied with the Berlin model

3

because I am afraid that Bailey will make some arrangement with N. & I dont have something always as good.

Lamp tests. Received 922. 926. 938. 941. & 955; these are magnificent. We are now making long carbonizations & will send you tests. You must remember that our fibres as yet are only 6" long.

Arc lights. I have received your bill for 6 arc lights complete with globes and carbons, value $115.20. What is this? Is it the D's are lights because, if so, it was understood between Navarro & myself that he would send these 6 as experimental ones and I did not expect to pay anything for them.

Yours faithfully.

Chas Batchelor

Aug 8th 1883.

Samuel Drexel New York

My dear Drexel,

Yours of July 26th to hand — Please sell for me my 54 shares of the Stock of the Isolated Company. Get me the best price you can and after deducting a commission for yourself place the balance to my credit at Drexel Morgan & Co. — If you find it difficult to sell it & can easily sell parent stock please sell enough of that instead to net me at D. M. & Co. $6000 under the same conditions. I hate to sell this etc. for the purpose I am doing it for; the need to put into the Continental Company I must get it from somewhere — If it were possible to sell European at any price I would sooner sacrifice that. It is simply [illegible] for ordinary ones

Yours truly
Chas Batchelor

124

Edison Aug. 9. 1883.

charge bringing by I
with a them price although
come is which come dynamo
you higher from lower and
would price America the going
write they they propose it
which wrong is dynamo come
the legal another I keep
locate the immediately to
Electrique orders into as work
is which that wrong dynamo
offering have of
them me personal I amount
that dynamo wrong is that
a for motive them large
lower lamps you have very
price outside we and
that wrong dynamo which is
for of they to take -
lamps France have me it
in come laid for and
wrong wrong come come which
large arms workable fabrique
quantities dynamo three is then
which hundred it in
find is thousand that dollars

~~GH~~

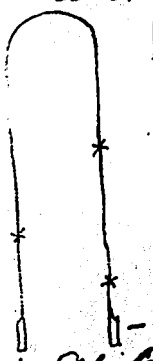
T. A. Edison Esq

Aug 10th 1883.
65 5th avenue.

Lamps made by Friedrichs & Greiner, Thuringen, Germany. The carbons said to be made of tar treated with acids etc ----

From almost same as Edison —
6 lamps received marked 99 volts & said to be 16 candle.
At 16 c.p. these tested as follows:—

	1	2	3	4	5	6
Resistance Cold	306	241	310	310	300	290
" Hot	158.	146	154	161	154	157
Volts	104	105.3	100.	[illegible]	105.8	100
Ampères	.65	.44	.68	.71	[illegible]	[illegible]
Kilogrammètre	6.9	4.9	4.3	4.8	4.3	4.4
Lamps per H.P.	10.8	9.5	10.2	9.6	10.2	10.4



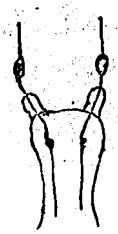
At 64 candles 1, 3, & 4 broke immediately, so tried other 3 at 16 candles

No 2	lasted	4.32 min
" 5	"	109.20
" 6	"	298.09
	3	414.61
	hr.	138.21 average life

Before breaking all were rather badly discolored in the glass

2.

Size of Carbon after Carbonization :—
·0428 inch × ·0045 × ·008
Illuminating surface ·1107 square inch
" " per candle ·00692 sq in.
Leading in wire ·012 diameter
Section of carbon



Clamps made of carbon evidently put on in a soft mixture of paste or

Yours very truly
Edison Electric

Not sent

Aug. 19. 1883.

J. P. Bailey Esq
Admt. Delegué de la Société Electrique
Edison. Paris.

My Dear Sir,

A remark made by you at the office today leads me to say a few words relative thereto. Your remark was relating to the Société Electrique affairs and was as follows:- "You see Batchelor our business has never been organized and things are done without any head at all." These were not the exact words perhaps but I [illegible] you meant about that. Now as I have heard this same thing before it makes me feel as if it was [illegible] me to organize it. I must reiterate what I have once before put in a letter to the Société that I cannot give any of my time to isolated business in detail as the thing is so simple that any ordinary good engineer can attend to it perfectly; as it is done in America. I hope therefore that you do not wait for me in this matter but will put someone in the responsible position of seeing that the Société's plants are put up properly and with the least expense. The remark above of course only related to the Engineering department of the Société Electrique. Very truly yours

Chas Batchelor.

516

Aug 15 1883

Thos. A. Edison Esq New York

Edison Kinney Autographic.

I have spoken with a number of people on this and it seems to be generally thought that it would be difficult to get the Government to adopt it. The use of the Printing telegraph here is very general and perfectly satisfactory — If I could point to its being in use in America and also show its advantages over other systems thereby some one might take it up — The people here don't seem to hanker after a thing unless they the Government is the only buyer. Has Kinney got it so that he is not afraid to put it on the line as the Exposition I could have had a permit to put it between Paris and Brussels but Kinney was afraid to try it. I have talked to Cicotto about its use in Italy but he thinks that it would be difficult to introduce there — The price $25 is certainly small and if you think that it has advantages over the printer telegraph me the word 'constant' and I will pay it, if you do not want me to pay it telegraph me the word 'inconstant' so that I shall know that you have received my letter — People here seem to attach no importance to the fact that it is "Autographic" but think that only reliability and speed are the valuables.

Yours Chas Batchelor

No. 1

Aug. 14th 1883.

Mr Arrington &
London.

My dear Arrington,

I am very sorry you can not come as Cunningham leaves off Dover Sunday whether he has finished or not and I should like you to have seen it run, as I have a number of engineers who want to see it work very hard and who would make a very good report of it in Europe for you if I allow them to assist in the experiments when we have it all right. I have promised them that in a few days I shall be ready. You speak of going to America. Are you not going to do something so that we can get there engines in France before you go?

Truly yours
Max Satchelor

20th Augt 1883.

518

J. F. Bailey Esq., Administrateur Délégué
de la Compagnie Continentale Edison
Paris.

My dear Sir,

I took upon myself when Columbia was here to ask him if he could spare Hermite for 2 weeks saying I would pay his expenses back if he had not finished with him.

I want to have Hermite make a trial of the C Dynamo, which is now finished, preparatory to showing it and testing it with any engineers you may send.

Tell you therefore confirm my order for H. to come up here as, of course, I had no authority to do this without consulting you! Columbia said he would probably send him to-night.

The C. dynamo looks very good indeed & works well, but before any engineers are sent here to see it, I must get a clear & thorough test of all its capabilities myself.

Yours faithfully
Charles Scott

20th Augt 1853

579

J. Farnell Esqre
66 Fifth Avenue.
New York.

My dear Farnell

In answer to your letter of 6th inst only to hand this evening, I would say that Cunningham has left for America, I therefore cannot speak to him about it.

I have an idea from the tone you told me that Cram had made so much money by contracts that there was something very crooked about it. I had had time when in America, I should certainly have asked you to open up the books for me. Bill Edkins that, if he finds anything of this sort, he ought to take very strenuous measures as there is no thing we can be more money in than a dishonest manager.

Yours faithfully
Charles Ketchum

520

Aug. 20th 1883.

Francis H. Elton Esq

Newark. N.J.

My dear Elton;

Your letter of Aug 2 to hand — I do not remember to have seen the article you speak of — I enclose a copy of all the reports to Major Eaton and I do not call them a very bad showing he will let you see them if you ask him to do so I'm sure — We certainly have not got with us very energetic men, & it has been a very uphill two years with us, but we are now on the eve of getting all the money we want and that with a better return to the European Co than under the present arrangement — I feel also bring a market for our stock which would be something — I think probably by this time Major E. can give you some of the details

Yours as ever

Chas Batchelor

133a.

521

Aug 20th 1883

Mr. A. Collins Esq

New York

My dear Collins,

I think the time is not far distant when I shall be able to get away. I am just about to put a director in at the fabrique so that I can leave it a little for more important work. Bailey and Lewis new company is coming along well and I think will soon be closed. It will give a better venue to the European and make it look a saleable article – It will have plenty of money to make any installation it likes. It will not be controlled by Borgas who I must say is the most disagreable man I ever met; he will do nothing himself unless he gets another grip on us, and he holds out continual threats of closing up the companies etc, etc.

Lamps. You must I see get any trade from here by offering at low prices so I would immediately send them such prices – I am certain that in Germany and France lamps can be made much cheaper than your prices and I will do all I can to stop the making of fabriques at present – Make your prices for 10,000 – 25,000, and 50,000 assorted at a time

133b.

They may want me to take a position in this new company to help in organization of its work, but if it meets your views I shall take none so that I can skip immediately I see the chance

Yours as ever

Chas Butcher

23rd Aug.t 1883.

~~282~~

Wm. F. Hammer Esq.
96 Leipziger Strasse.
Berlin W.

My dear Hammer

I received your letter of 20th inst. & telegraphed you this morning as follows:

"From your letter giving section of wire it cannot possibly run more than 400 lamps three quarter ampere.
"What does Edison call it?"

The old Edison machines running ~~to~~ 150 & 250 lights were provided in their armatures with wire sufficient in section to carry current for their lights without heating abnormally; this section I found to be the best and, if we increased the current on it, we invariably got undue heating in the armature. It is practically 4½ amperes to 1 □mm of section.

In the 120 light machine which I make, the section of wire of the armature is doubled and consequently will heat no more than the 60 light one.

As regards the machine Edison has sent you, the section is only sufficient for 400 lights at the very most, & I think it is probably safe at that but if I was making it I should give a little more section even for this

(cont.?)

As I have not all the details of the machine, please use this information with great discretion; it is quite possible that the ventilating arrangement Edison has on it allows of its carrying 100 lights very easily, therefore you had better use it at what he says.

Yours truly

Chas. Batchelor

525

Aug. 29. 1883

Samuel Insull Esq New York.

My dear Insull,

Brent Stock. Is there any possibility of your arranging for the payment of the sum mentioned in the enclosed letter from the Edison E. L. Co namely $3.810?— As I know Edison cannot be flush it would be better to sell something to pay it would it not?

Pre-Simile Patents. I have instructed Brandon (who took these patents) to pay the annuities for France and Belgium. This will be done immediately and in a few days I will send you the receipts. This I have done in accordance with your letter of Aug 14th enclosing Sarrette's letter of Aug. 10th. 1883.

Price of fibres. You people are getting me into a coil of a snarl over these prices and if you knew the difficulty of explaining away a change in price with a Frenchmen and how it has to be investigated you would not do it

The 21 July I sent you an order for 15,000 fibres
The 3 Aug I sent another order of 14,000 fibres
These were sent because Upton had given me the prices in a letter (of which he has a copy) dated May 14 1883. These prices I asked him

2

for when Edison and I were at the lamp factory and when he gave them me it was understood that the lamp factory could make money at those prices — these prices were for any fibre

£5 per 100
£40 per 1000
£300 per 10.000

Now after having ordered 25.000 a letter coming from Upton at Lamp Co says that he shall charge: —

	fibres	Carbons
B	2½ cts each	3½ cts each
A	4 "	5½ " "
32 c.p.	5 " "	6½ " "
50 c.p.	5½ " "	7½ " "
100 c.p.	6½ " "	9 " "
10 c.p.	5 " "	7 " "

entirely ignoring that in a previous letter he gave me a price of 30cts each all round for fibres if I ordered 10.000 at a time —

This probably could have been got over but later the Societe Industrielle received a letter from Edison in which the prices are again raised as follows: —

	fibres	carbons
B	2½ ¢	5 ¢
A	4 ¢	7½ ¢
32	7 ¢	12 ¢

	fibres	carbons
50 c.p.	10 ¢	
100 c.p.	12 ¢	
10 c.p.		

3.

thus reaching as you see in some cases actually 4 times the price originally given by Upton.

The total cost of a fibre to us here after all inspection is made and all bad thrown away is $12\frac{3}{4}$ cts and the total cost of a carbon after its resistance is determined and all bad thrown away is $3\frac{3}{4}$ cts these prices allow for all depreciations & expenses of whatever kind that can happen such as losing an entire carbonisation occasionally, depreciation of furnace etc. etc. etc.

I must here remark that to charge 12 cts for a 32 c.p. carbon is an outrage — It is exceedingly difficult to get anyone here to consent to sending an order to America for anything and invariably when they are persuaded to do so they have difficulty with badly packed material, broken pieces, and now enormously higher prices than those represented to them — Why did Upton give me those prices of May 14th if he did not intend to stand by them for at least the first orders — If it is necessary you must stand by me for the orders already given as you see such differences cannot be satisfactorily explained

Yours truly
Chas Batchelor

526.

August 29 1883

Francis R. Upton Esq
C. Newark. N.J.

My dear Upton,

Referring to your letter of Aug 18th quoting prices for fibres, will you kindly refer back to your letter of May 14th of which you have a copy. You should have notified me before you shipped the fibres of the changes in the price as my orders were based entirely on the prices given me by that letter and made in such quantities as to take advantage of the $300 per 10000 — Thanks for Howell's note on Carbon. Can you send me one of your curves for 10 candle lamps?

Very truly Yours.
Chas Batchelor

522.

Aug 27 1873.

Francis Jehl. Esq.

53 Rosengasse A 111
Vienna

My dear Mr Jehl,

Yours of 25th to hand. The all caps & the signature for Brinn will be sent you immediately — Mr Bailey will be down at the Exposition probably during this month — Don't send the signatures back but see if you cannot make them all right at your little shop at Brünn with the instruments we have. When you see Bailey speak to him about the little repair shop you mention as I think it would be advisable respecting. Also speak to him about Einbrode — As for Biederman I know nothing about him — Shall probably get down to see you what is the closing time of Exposition? I will give you a letter on new dynamos in a few days.

Very truly yours
Chas Cutler

(August, 1883)

528

Mr. A. Edison Esq.

New York.

My dear Edison.

A hint for the Machine Works.

Hermis tells me that the C Dynamos all came to Milan without having the bearing places of the shafts tallowed — He says they were lapped with paper and the outside of this there was some tallow, but not inside — He said he said it took him over [illegible] to get them to run without heating — He says that with any more they ought to tallow them well and afterwards wrap them with a piece of lap that has been dipped into tallow. Another thing; he says that the Armington engines came not entirely [illegible] and there were no marks to tell which piece belonged to which engine — Perhaps you will notify them of this.

[illegible] Engines. I am very much disappointed at these people — Armington never comes near us and repeated letters and telegrams cannot drive him here although he knew I wanted to make tests before these people before Cunningham left — There were many things wrong in the drawings and which we have had to get

2

over as best we could — Have you a good man that you could send me if I want him; a Frenchman if possible who is fit to take the overseeing (a sort of leading workman) of the engine and & Dynamo Building — My director is confident that he can get along but I should be more confident if we had a man that had helped to make them there. I shall not want a $3000 a year man but a good workman who has worked in the machine works. I could use Henri but he is too valuable a man for me outside? Let me know by letter —

Wrinkle on Dynamos. Under the commutator bars we have always put japanned paper instead of mica in the small sizes of dynamos — I find that in many cases this paper is carbonized & sometimes even we have noticed nothing wrong with the machine particularly — I put mica in them now. — Perhaps you do the same —

Yours truly

Chas Batchelor

52 q.

Aug 30th 1883.

Mr. A. Edison

New York.

Theatre Regulators

My dear Edison,

I have made one or two good theatre regulators of spirals of German silver wire, and if Bergman & Co like to use them I enclose a table for calculating the resistances; and a curve, which if followed, you will see no jumps in the light from 16 candles to a black. The table shows 40 buttons on the switch, the amount of resistance to introduce at each time, the total resistance etc. etc. [illegible] made for one Edison lamp .75 ampere of [illegible] current and any number of lamps in a lot can have a resistance calculated from this as follows:- In order to know the diameter of your wire you must know how many amperes you want to carry on each button of the resistance box, so you multiply the second column by the number of lamps ~~it is for~~ the resistance box is for; and the curve will give you the diameter of wire in tenths of millimetres — the resistance of this wire is found by dividing the sixth column by the number of lamps in your regulator

Yours Chas Batchelor

Enclosure

530 Sept. 1st 1883.

D. H. Brandon.

Paris

My dear Sir,

Yours of 31 August received enclosing receipt for 3rd Annuity on Edison & Kinney's patent No 144.646 French; also bill for same with Belgian payment also.

Please find enclosed, check for $150 in payment of bill which please receipt & return to me — Thanking you for promptness in this matter Believe me

Yours respectfully

Chas Batchelor

Mr. A. Edison Sept 1st 1883.

New York.

My dear Edison,

Telegram "Instant" received — Unfortunately I had just paid both the French & Belgian annuities on this Kinney patent as directed in your letter of Aug 14 which says "I suppose the fees ought to be paid otherwise our U.S. Patent may be affected"

Anyhow it is only $150 — I will send you the receipted bill in a day or two

Yours

Batchelor

146

533.

Sept 3 1883

Francis Jenz Esq

Vienna

My dear Francis,

Ross writes me that they are going to have competitive tests and that Siemens proposes to show lamps of greater economy than ours – I presume it is the same lamp that he writes about in the Electrotechniker Zeitschrift for August. If you read it you will see I think that he says nothing about life which to us is very important – I do not know what lamps you have there but you must have of course some with 175 Amperes & 100 ohms. Now I think if you have 10 candle lamps new from R.G. that is 6" long in the fibre you can turn them to 16 candles & they would show even better than Siemens & have as long life because you know he can only get more economy by having less surface per candle power and that naturally gives him more resistance – Let me know what preparations you are making – I shall come along if necessary to give you any help, or as to beat S&H. I have telegraphed Edison to send express some particularly economical lamps & ask all try & bring some from here – In the meantime see what you can do

Yours Batchelor

534

P. Thos Esq.

Sept 3 1883

111 Baumgasse 3
Wien

My dear Mr Thos —

You letter of 30th to hand — I know about the article in the Electrotecnische Zeitschrift on Siemens lamps and I understand how he gets greater economy. If you will notice he says nothing about the duration of the lamps — In order to get this economy he gives his surface of carbon per candle power & of course he gets with it more resistance If the judges will make a life test of their respective candle powers there will be no difficulty — I shall however endeavour to have lamps more economical there ourselves as that if duration is not a factor we may not be behind in the race

I know nothing of the tests made at Munich & I should be glad if you could furnish me with a copy of them

Very truly Yours
Chas Batchelor

535

Sept 3. 1883

Philip Sentel

Munich

My dear Sentel,

Ross tells me that the tests of the different lamps at Munich showed that ours was 30% worse than Swan or Maxim. How is this? You must have had lamps of .95 of an ampere instead of our economical ones.

Yours truly

Chas Stretch

536.

Sept 4th 1883.

Thos. A. Edison Esq
65 5th Avenue
New York

My dear Edison,

Enclosed please find

1st { Receipt for 3rd annuity on French patent Edison & Kinney 144.646

2nd { Receipt for 3rd annuity on Belgian patent Edison & Kinney no. 55.623

1st { Receipted bill for 150 francs in payment of both these annuities.

As I mentioned before, I paid these annuities on receipt of a letter from Lucas saying "that they had better be paid or it would affect your U.S. patent", and that previous to receiving your cable "Inconstant".—

Please credit my account with $29.12 and oblige Yours very truly

Chas Batchelor

3 enclosures

534

Sept 4 1883

Francis Jehl Esq

Vienna

My dear Francis,

I just put 5 of our 10 candle lamps at 16 and took their economy as follows:—

	Volts	Watts Abs	Amps	Watts Abs	Amps Abs
1	105	179.1	.58	6.2	10.4
2	110	193.4	.56	6.3	11.9
3	106	172.8	.61	6.6	11.3
4	104	172.9	.60	6.3	11.9
5	103	171.2	.60	6.3	11.9

Now if you have any of the American 10 candle lamps in the flre 6th long we can beat Siemens on that — tell me all about when the coal is going to begin

Very truly Yours

Chas Batchelor

5240

7th Sept. 1882

La Société Electrique Edison.
Paris

Gent:

Your letter of 6th inst. received in which you order me to make and send a "compteur au sulfate de zinc" to Mr Pillifon, Quai St Bernard, and authorise me to deliver him a "balance and so on.

The Usine at Ivry has got a meter all ready which could be delivered immediately, but I would call your attention to the fact that if you wish this meter to register accurately the current which passes through it, it will necessitate a longer time than you specify to get it into good working order.

You must know that I must have my standard solution of Sulfate of Zinc made and a very accurate balance for weighing it, all of which takes time as they must be equally as good as if I were putting up the meter for a Central Station. Without such care I cannot possibly guarantee the good working of the meter and in order to guarantee this I must have the necessary time to prepare for it.

As your letter gives me authority I shall immediately give an order for a fine balance & the other necessary material that I require to do this

work and I shall place the meter at your disposal in working condition at as early a date as possible.

The lamps Polignac go back to-morrow.

Yours faithfully.

Chas Batchelor

548

Sept 11th 1883

Société Electrique Edison

Paris

Gentlemen,

Dynamo E. In accordance with your letter of the 3rd Sept. I have made the necessary alterations on the Dynamo (type E) the results of the tests were as follows:— 1550 turns with 17 lamps on it gave 110 Volts — this machine was sent away Saturday

ing I have received from you this morning a tracing but I dont know what to do with it as I have received no instructions about it Please explain what it is and what you want me to do with it

Hôtel de Ville I would ask you to order immediately the lamps for the Hôtel-de-Ville so as to have them in hand at the magasin; as the factory sends away almost all they make, and it is possible if you leave it to the last moment you may have to wait

Respectfully Yours

Charles Batchelor

542.

Sept 11 1883

W. J. Hammer Esq

Berlin —

My dear Hammer,

Yours of 4th Sept to hand

You must not forget that Siemens says nothing at all about the life of his lamps. This is a very important factor and under no condition do he think of putting a lamp out to the public unless it shows in tests at factories an average of [illegible] It is extremely easy to make lamps of greater economy if this factor is left out. For instance one of our old 10 c.p. lamps run at 16 candles shows

C.P.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
16	135.6	[illegible]	.57		190.

We have been going for life particularly & the late curves from America show:-

C.P.	Volts	Resis.	Amp.	Kl.[illegible]	Life
16	100.4	139.5	.72	7.23	4325 hours.

This is the average of a great number —

I will send you the results of a set of a new special lamp I am making for Jeh at Vienna

I see Siemens puts our lamp at 159 candle per H.P. [illegible] (calculated [illegible])

I have put a [illegible] on [illegible] so that it only runs [illegible] [illegible] makes it much more

543

Sept 11 1883

M. Mozenthal
Bureau de Statistique
33 Ave de l'Opera
Paris

My dear Mr Mozenthal,

I understand from you & Mr Bailey's letter that an application has been made to annul our earlier patents because of their identity (total or partial) with previous patents granted to Mr. Lane for Texas. Will you not get these patents of Mr. Lane & Texas in Austria & let us take an early rendezvous to examine the question.

Very truly yours
Chas Batchelor

Compagnie Continentale Edison
33 Ave de l'Opera
Paris

544 Sept 11 1883

Thos. A. Edison, Esq
— New York.

My dear Edison

Your cables for $2000 were responded to Saturday — Please send forward the bills for same immediately — The factory says that all they have ordered & the balance to your credit here are not amount to that amount although I have prevailed on them to send it Please in future dont ask for more than is due as I have trouble in getting it promptly as I have as you know put the factory into the hands of another director

Yours truly

Chas Batchelor

Chas Porges Esq

Sept 12th 1883.
Paris -

My dear Sir,

In conformity with Mr Tournade's letter of the 10th of this month I now send you enclosed :-

1st Letter from Mr Jurey to Charles Batchelor June 9. 83.
2nd Copy of telegram from Mr Howard, Pres: of the Armington and Sims Engine Company to Mr. A. Edison dated June 5th 1883
3rd Copy of letter of Mr Sims to Mr Jurey June 5th 1883.

Mr Armington has been here two or three times during the time we have been building the engines and has said in the office in the presence of Mr Chatard and Mr Rau that we had the right to build the first order of those for central stations and also those necessary for Lyon - I am not sure whether M Chatard and M Rau will remember this

If you do not consider these copies of correspondence evidence enough of the right to fabricate the ones we have commenced or, please write to Mr Edison and he will no doubt send you the originals -

As regards the claim of the Compagnie it must be remembered that it has been

finished since the 15th August. — As in all first machines, I found on trying it, that there were many little faults to be corrected, the pieces in this machine being so large, & much more difficult to handle, & take up time to make slight changes on; on the engine part of it we erred by making everything too good a fit, (which was very natural being the first one made) so that it was two weeks before we could turn the engine without it getting warm in its bearings. — I think now I have got to the end of these faults now and hope in a few days to be able to put 1200 lamps on it —

As I expect that you will want to know what is the economy of the engine, I wish the Commissioners Orientale to authorize me to put a "Rechauffer & pump", and connect it with the present Babcock and Wilcock boiler at the factory; and afterwards to try the economy with the cheap grades of coal — the factory is fitted up here with everything necessary to run the lamps — but not to get the best economy from the cheapest kind of coal, because we can only find that out by experiment. — The rechauffer & pump will cost about £300 posed and each test will require 5 or 6 tons of coal of different kinds

Very respectfully, Yours

Chas Batchelor

The 'rechauffer and pump' can afterwards be used in [illegible] etc.

5745.

Sept 12 1893

M. Chas Porges
Pres. Cons. Adm. Compagnie Continentale Edison
Paris –

My dear Sir,

As you had expressed to me a doubt as to the veracity of my statement regarding the cost of reproducing the present working part of the Central Station at New York owing to a conversation you had with Mr Meadwcroft when here I thought it was just possible I might have made some grave error – I went over the figures very carefully and found that they were right – I then wrote to Major Eaton to ask him to give me an official "devis" taking into consideration the improvements in Dynamos and Conductors. I now enclose for your inspection:–

1st A letter from the Prest. of the Edison Electric Light Co asking from the Chief Engineer such a "devis" –

2nd Answer of the Chief Engineer with "devis" attached to the President of the Company.

3rd. Letter from the Vice Prest of the Edison Electric Light Co of Europe (Limited) to Chas Batchelor calling attention to the reliability of the "devis" and enclosing the 1st & 2nd.

As Mr Meadwcroft left America only a few days after myself I do not see how he could be conversant with what Mr Edison, Clarke, Eaton & myself had decided could be done from estimates that we had from the different manufacturers. Hoping this will clear me of what seems to you to have been an attempt to mislead

Believe me ever your obedient servant
Chas Batchelor

546.

Sept 12. 1883

J. F. Bailey Esq.

Amsterdam

My dear Mr Bailey,

I have just sent to Mr Porges the official papers corroborating my figures that I brought from New York regarding the Central Station. This I hope will dispel the doubts (freely spoken) as to the necessity of Mr Batchelor in such matters.

I will immediately look into the matter of Austrian patents. I have an interview with Hirzenthal for tonight —

The E machine went off all right at 165 amps + I believe the factory has sent away 2 already

The K 500 light progresses

The young man Scott is a very good man and I am giving him a good training

Yours

Batchelor

547

12 Septembre 1883

Monsieur E. Léon
Paris

Mon cher Monsieur,

J'ai pris d'adresser à Monsieur Borgès le devis officiel de la Edison Electric Light Co. pour la reproduction de cette partie de la Station Centrale de New-York qui fonctionne actuellement. Ce devis confirme, en tous points, les chiffres que j'ai rapportés de New-York et dissipera, je l'espère, les doutes qu'on a manifestés relativement à l'exactitude de mes affirmations à ce sujet.

Nous travaillons activement pour votre devis & vous le ferons tenir au premier moment.

à vous cordialement.

Chapsal-Chetto

549.

Sept. 12th 1883.

My dear Sussul;

I was afraid that something like what you tell me would happen as regard Green St Machine Works — If it cannot source I shall be satisfied — You know Dean must have paid an enormous sum to the piece work men there to make the price so high — I am anxiously awaiting the results of the enquiry

Very truly Yours
Chas Batchelor

548.

Sept 12th 1883

Samuel Sussul Esq
New York.

My dear Sussul,

Will you please pay the enclosed tax bill of $4.73 and oblige

Yours truly
Chas Batchelor

550.

14 Septembre 1883

Messieurs Sautter Lemonnier & Cie
Paris

Pourriez-vous obligeamment me donner quelques renseignements sur votre "search light" qui fonctionne dans un circuit de lampes à incandescence? Je désire transmettre ces renseignements à notre Société en Amérique qui a déjà fait des installations considérables dans la marine et espère en faire beaucoup à l'avenir pour le compte du Gouvernement.

Dans l'attente de vous lire je vous présente, Messieurs mes civilités distinguées.

Chas Batchelor

551.

14th Sept. 1883

Dr. J. Hopkinson
London

My dear Dr.

I must ask pardon for not answering your letter from Switzerland but I only found it this morning, it having been picked up from behind my desk where it had dropped whilst I was away.

My objection to Sprague's tests were owing to their short duration. Many of the machines that I have put out have to run all night and, in winter, ~~the average~~ 14 to 16 hours per day. If I remember right, Sprague, on the 8th test, got about equal in amperes to 175 lamps for 1 hour. This machine never could run, in practice, at the greatest capacity that it shows, in the manufactory for 1 hour.

I find no difficulty in making the armatures give double their former capacity without any change whatever except that of putting sufficient cross section of wire in them to carry the current without heating. I make a machine for 120 lamps, at a little over the price of the Z, that will run all night with its load on; of course I have a stronger magnet.

The new H I have not made, but my 500 light can carry its load for any length of time.

I have decided to use here, for Central Stations, a 1000

light machine with engine as a unit, and I am sure I can make it for half what the 1200 light costs.

Very truly yours

Max Zerrahn

552.

J. F. Bailey Esq

Sept 16 1883 –
Amsterdam –

My dear Mr Bailey,

Yours of Sept 15 & telegram to hand. All I know about the Vanderbilt installation is that I believe the house is wired like a great many others in that district waiting for a Central Station to be erected. The fire you speak of I suppose was the heating of a wire when they were drying the wires before the house was finished, and occurred at least 2 years ago – The installation has been run as an isolated plant to show Mr V that it was perfect & now waits a Central Station; I do not think it has been thrown out or I should certainly have heard of it.

I will look into the matter of Athens estimate & note what you say as regards sending copy of Baes & Kaufart estimate to Mitchell of London – I will have immediately made the Bon Marché duplicate copies –

I send you by next mail copies of all I sent to Forges of official letters on H & C Station estimates

Yours truly
Chas Batchelor

Sept 19 1883

Francis Jehl Esq. Vienna Austria

My dear Jehl,

Upton has sent you direct 2 barrels lamps for testing purposes; 150 are 10 candle lamps & he runs at 16 c.p. He says they are remarkably fine lamps & should show 11.8 watts per H.P. You had better call them the new Edison 16 c.p. lamp. He also sent 150 regular lamps picked out for best economy these could be depended on for any test life or otherwise —

Yours on burned armature & hand what was the cause? A great fault I have found some time ago, was the carbonization of insulating paper under fors of commutator, have you experienced this? We put mica in now — send me a copy of your tests when made

Yours

Chas Batchelor

554

Sept 19th 1883.

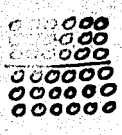
Geo. A. Edison Esq

65 5th Avenue -
New York

My dear Sir,

Cable on fire prices received & handed to Société Industrielle! Also received cable as follows - "Will immediately proxy vote special meeting Wed 24 Sept. or adjournment thereof" Will immediately attended to - I have represented your case strongly before Rau about the Italian engines and he seems impressed and asked me to send your letter to the work hire - As regards the feeders & motors it seems that Lieb has told Columbia that they were worthless and could not be used, and that you used no such thing in New York. I think I have a chance of taking one of the Porters and shall decide in a day or so for the Nice exposition - Our people want to put up a C but I think better to put 2 500 lights and a Porter I think I shall persuade them -

180 light machine: I have just altered a L to give 180 lamps quite easy and it works very well indeed -



Armature: Wound like a B
18 wires No 19 each coil
Resistance 0.032 ohms

2.

Each core wound with 103 lbs. No 16 wire paper on core but after the bottom layer no paper — the wire passes through a solution of parafin and resin on the [illegible] during winding.

Test 1200 turns
140 Amperes
110 Volts

Dynamo. I have altered all the [illegible] we had commenced to give 1650 [illegible] instead of 2200 which is a speed which gives no satisfaction in the hands of the public.

Armature:- Instead of 2 wire 8 turns around I make 2 wire 12 turns round, this makes the armature more resistance but then we can easily sell them at that

Yours truly

Chas Batchelor

Oct. 10th 1883.

Société Electrique Edison
Paris —

Gentlemen,

Devis du Bon Marché — I sent you this afternoon the devis for the installation at the Bon Marché of 200 lamps with explanations from Mr Lamandé —

500 light Dynamo. Our experiment on this was very successfull last night although we had not power enough to make a test as prolonged as I should have liked —

150 light Dynamo. I have designed this machine again, and it will be 200 lights from the new drawings; the Société Industrielle commences the models immediately —

50 and 25 Dynamos. The drawings for these are also on the boards and will be finished shortly

Installation Volant. We are studying this and will shortly give you some of the results —

Cigar lighter — I am experimenting on this to make it work by one accumulator which would be charged itself by a single cell of battery; if I can make this work we can put them in the cellar & they have the cigar lighter in

Oct. 10, 1883.

2.

the room.

Accumulators: the experiments continue on these, and I will tabulate the results in a few days

Gas motors. am preparing plans of this with our machines and will send them in a day or two.

Devis Rue Basse du Rempart. I have to ask indulgence for the long time this has taken but it must be remembered that we have had to work out a 1000 light machine of new model and also to get over many difficulties that have appeared relative to the using of the 3 wire system. I hope to be able to place it in your hands shortly —

Exposition at Lille — Now we have the test on the 500 light machine I shall see Mr Quatrescaux immediately to work this up together —

Bad Lamps As regards the lamps of Mr Hovel I have told Lamvardy to ask you to have them sent to me for inspection as it is just possible that there may be some fault and it is better to please a customer than lose one, besides we are not infallible yet in lamp-making

Very truly yours

Chas Batchelor

Oct. 15, 1883.

Oct 15th 1883.

Major Eaton,
New York —

My dear Major,

Your letter speaking of Gen McAlpine received. Rest assured I will do everything I can for him —
If you remember I have still in my possession 70 shares of the Company (Founders) which in a former letter you directed me to hand to Mr Leon, taking his receipt therefor. In view of the claim the 'Edison Electric Light Co of Europe' holds against Mr Leon or his syndicate which you wrote me about, do you not think that it would be advisable for you to telegraph me to ship those shares to you, or to order me not to deliver them up by telegraph, till you have got a settlement?

Very respectfully Yours
Chas Batchelor

If you wish to do this please do it quick as if Mr Leon acceded to give me the receipts required I should have to give him the shares
CB.

Edmonde Neuflize:—
English going by ten and thirty
two candles [illegible] your price better
send them reduced price

Oct. 17 1887 5 Rue du Parc Longchamp Batchelor

Oct. 22 1883.

Monsieur l'Administrateur de la
Société Electrique Edison
Paris —

M. Rau,

As now after a great deal of work we have got the Hotel de Ville in good working order, I will give you a few details of the difficulties I have experienced.

I found a great difference in the percentage of loss on the different circuits ranging about 6% and another 13½%. Mr Rieu and Mr Desarce attribute these differences entirely to the changes made by the city engineers in the disposition of the lamps. This is probably so; but no such change ought to have been made without a thorough calculation again of the wires to see what difference it would make. It seems astonishing to me that Mr Desarce did not know that he must double up his wires when he doubled the light in the Conseil chambre —

I found that commutators for the different circuits at the dynamos were supplied entirely insufficient in section, in the circuit carrying 300 lamps the metal got so

2

hot as to fuse the lead safety catches independent of the current — I procured at the same commutators having larger section for the two circuits and for the one for 300 lamps we are making a larger pair — Although I have strongly condemned the use of bons cavaliers (as when Director of the Fabrique have refused to permit any of these articles) I find great quantities of these articles used at the Hotel de Ville. I have ordered my assistant to pull them all out and throw them away immediately. Although for the last four months or thereabouts we have been making the commutators for branch circuits with a base of 'ardoise' I find in the Hotel de Ville still the old wooden commutator, all these I have ordered Mr Vissière my assistant to remove & replace with the newest models —
I find that when Mr Devarce changed the Council Chamber from 8 & 4 light chandeliers to 16 & 4 light chandeliers he did not increase the capacity of the commutator correspondingly and I have ordered Mr. Vissière to also attend to this immediately. I have frequently asked to have a new spare armature at the Hotel de Ville

3

in order to be ready if any thing should want a little repairs. This was very important as they work the machines every night to a little over their capacity. As this has not been furnished I have taken on myself to order immediately (from the fabrique) one sent down today it will be in its place near the machines the Sunday at midday. I have also told Mr. Vissire to replace the two regulators by one as soon as it can be made as the machines will run better with it.

Hoping you will confirm the changes I have made there, and hoping you will have Mr. Desarce consult himself or Mr Vissire or Mr Sarsardy on the arrangement of any installation he may make in the future

Believe me

Yours truly

Th. Bertelin

Oct 22 1883.

My dear Edison,

I telegraphed you a few days [illegible] give lower price for lamps to England [illegible] I did not think there was any [illegible] our people taking an order for the [illegible] English people have however given them an order for about 7500 lamps [illegible] are making now — these lamps [illegible] factory after all expenses including rent, [illegible] etc, etc, etc, 1.50 — the English people pay them 2.25 for them —

There are a great many complaints on the American lamps & people begin to ask for Paris lamps, I dont know whether the lamp factory sends us the best but I wish you would tell upton that he must live on this European business if he slights us — I think you can only get any of this trade by having a better & longer life lamp than us and the lamps do not hold out the magnificent curves of life that I have brought over with me & showed so much about

Yours truly
"Batch."

Oct 28 1883

M. Charles Pepe,
Pres. "Societe Electrique Edison"
Paris —

My dear Sir,

The time has now come when I feel it necessary to ask you to lay before the 'Conseil', the necessity of appointing an engineer for the work of the Societe Electrique, and so relieve me of its responsibilities, in the same manner as has been done in the case of the 'Societe Industrielle'. The business of the societe is getting larger and larger every day; and as all the engineers have been only partly educated to the business, and have been left to themselves a great deal as regard the general work, it is easy to conceive that almost all our plants are put up in a different manner, and many have to be altered afterward. The system of inspection which was adopted some months ago, was a move in the right direction, but now it is very necessary indeed that all the centrals should work under one technical head — I would suggest that this technical engineer should be taken from amongst the men

who have shown ability in the business. The names of one or two I can mention as capable so far as their work shows:

Mr Stout, at present inspector, thoroughly understands the Edison Isolated Plant —

Mr Vaniere, my assistant in the fabrique, who is very capable.

Mr Geoffroy, whose plants are deservedly spoken well of, and who has, I understand, been a Contremaitre formerly, at the "Creusot."

There are others capable, but I think these the best,

Very respectfully yours

Chas Batchelor.

15 Novembre 1883.

Monsieur C. Borgès.
Président de la Cie Continentale Edison
Paris

Mon cher Monsieur,

J'ai l'honneur de vous informer que la fabrication ~~des modèles~~ des nouvelles machines de 25 et 50 lampes se poursuit activement à l'Usine.

Les dessins de la machine de 100 lampes ont été remis à M. Picou dans les premiers jours de Novembre.

Ceux des machines de 25, 50 & 50 lampes lui ont été remis les 5, 12 & 13 courants respectivement, et il m'a informé qu'il pourrait commencer à livrer :

les machines de 100 lampes au 15 Décembre prochain
" celles de 25 lampes " fin Décembre "
" " 50 " " au 15 Janvier "
" " 500 " " fin Janvier "

Beaucoup des modèles sont déjà faits et M. Picou déclare qu'il lui serait impossible de fournir des machines, sur n'importe quel autre modèle étranger, dans un délai plus rapproché.

L'un de mes collaborateurs M. Garnier prépare actuellement la caractéristique des machines ; ce travail sera achevé demain & je pourrai ensuite remettre à M. Picou dans un délai de 10 jours, les dessins nécessaires pour établir la

"compoundage" (droits seulement) de ville pour la
nos machines.

Recevez, Mon cher Monsieur, l'assurance de
mes meilleurs sentiments.

Chas Batchelor

Charles Batchelor Letterbook, Cat. 1239

This letterbook covers the period September 1881-March 1883. Most of the letters are by Batchelor and are in his hand. The correspondence relates primarily to electric lighting in Europe. There are also letters pertaining to electric traction, the phonograph, the telegraph, and the telephone. Among the recipients are Edison, Joshua F. Bailey, Sherburne B. Eaton, Samuel Insull, Edward H. Johnson, Charles Porges, Francis R. Upton, and the Compagnie Continentale Edison. Translations of code words used in cable messages can be found on pages 74, 81, and 86. The front cover is labeled "Batchelor. Private." The book contains 500 numbered pages and an index. Approximately 70 percent of the book has been filmed.

Armington Limnis 389. 415

NOTE: PENCILED PAGE NUMBERS ADDED BY E.C. GODSEY TO COMPLETE INDEX.

M. Berger	Palais de l'Industrie	9. 11.16
J. Bergman	100 Wooster Street N.Y	23. 31. 119. 129. 131. 132. 135. 273. (1.19, 1.29, 1.29, 1.38, 1.31)
D. H. Brandon (continued Lower down)	1 rue Lafitte	59. 100. 107. 141. 144. 146. 150. 151. 152. 128. 167. 206. 229. (1.9, 1.15, 2.13, 1.17, 2.22, 2.24, 3.3, 3.3, 1.33, 3.8, 4.7, 4.13)
Brewer & Jensen	33 Chancery Lane	
D. H. Brandon (continued)		160. 161. 170. 172. 171. 180. 184. 207. 227. 169. 210. 219. 248. 249. (3.6, 3.6, 3.8, 3.13, 3.8, 3.38, 3.26, 2.7, 4.13, 3.8, 4.11, 4.11)
Bailey.	3 Place Victor Hugo	350. 426. 435. 440. 442. 446, 470, 472, 473, 485.
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Chas Clarke	65 - 5th Avenue N.Y.	58-330-376
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Dyer. Rh. H.	65-5th Av. N.Y.	163. 164. 175 8.2 5.15 423.
Drexel Hayes & C;	327. 358. ~~359~~. 414. 407	
Drexel Morgan & C;	309. 441, 325, 359, 490	

Major Eaton	65 – 5th Avenue N.Y.	1. 27. 30. 32. 66. 91. 111. 1.6 4.13.
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Edison. Comp. Continentale	27 Rue de la Chaussée d'Antin	200. 209. 237. 232. 4.6 4.9 4.15 4.13
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Irene Fodor		166. 382 3.8
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J. W. Godfrey	55 Galerie Vivienne	18.
Col. Gouraud	6. Lombard Street, London	267. 337
J. Gordon	273	

Handford. T.J.	112 Southampton Buildings	1.5.3 8.15.
Hennis	374. 428. 433, 483, 484	

E. H. Johnson	57 Holborn Viaduct	17. 21. 22. ~~24~~ 26. 35. 45. 54. 65. 67. 69. 77. 80. 106. 117. 121. 139. 142. 149. 240.
Samuel Insul	65 5th Avenue N. Y	24. 74. 81. 86. 224. 255. 278. 283. 294. 299. 304.
J. Kreusi	65 Washington Street	56. 75. 90. 167. 288.
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Dr Moses	14 rue Tilsitt	57. 73 / 12.41
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Moreau Henri	370 rue St Honoré	114. 159 / 5.14
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29th September 81

My dear Major—

Many thanks for your letter as also for the Hinds and Stetchman letter which is valuable—

During last week I have lit up in addition to the parties I told you about before Messrs. Faulter Lemonnier & Co: this is the firm that supply the French Government with all their electrical work for lighthouses, ships of war, etc

I have put them up 12 lights and they assure me I have a small Gamme of their own make—

I intend shortly to light up a photograph
gallery from a [illegible] [illegible] —
Our engine is in pieces and we are now
hard at work on it but we do not get
it delivered [illegible] tomorrow — When we
get into the building it will not take
long to put it up — As I believe
I said to you before this is the most
expensive place for everything and for
acquisition work they charge enormous
prices I hope therefore that you will
not be too surprised at the amount
of money I have spent — It amounts
at present to about $8000.00 and
the expense is not by any means at an end
finished — As regards the [illegible]
horses we have ordered the [illegible]

and green the contract for all work — Mr Bailey has received a number of letters from Ottawa and also has received I believe the official communication from the Minister of the Interior relative to our patents being forfeited — He writes you fully and also sends copies of the correspondence — See our cable to Ottawa I said the Government would pay this expenditure but from what Mr Bailey tells me now they will only pay part of it and of course the expense is borne by Messrs Meakes and Bailey at present, as I should have hesitated to go on and pay for a work without an expectation. Let me say here that it is necessary and is the right thing to do. But I am working & acting [illegible] having made the arrangement & to avoid all the bills & them (Sd) [illegible]

4

the tests made by the Chess Engineers is very favorable to us they actually get more to the horse power than we do and they have found in every case it's more than we say. they still want one thing that is a lift that and I am having to make with a secondary battery just up sufficient to run 20 lamps all day and night if they want — I have also just got a dynamometer from the "Dynamometric des Arts et Métiers" which I suppose is just in the Fair machine for them — I shall be the only one in the exhibition that has a testing apparatus at all —

There seems to be a great pressure being brought to bear against Edison as in every branch of electrical work he has done a great deal and consequently got enemies but we hope to pull through with honors

Yours "Rated"

November 14 81

My dear Edison,

I received your telegram last night saying "Draw on me at sight" — I have therefore done so this morning through Drexel Morgan & Co. but at 2 days sight — I shall endeavour to make this pull me through but am not quite sure whether it will or not — I find the people here very loth to pay me a salary even for my living expenses they saying that it is the duty of the Edison Light Co to do that. If I am on the board of Directors (I believe the law allows them each to be paid here) I shall of course get a little and shall trust that at that end you have been able to get something for our labor" paid.

7

Nov 15th 91

Mr. Lowry. London. Ont.

Enclosed please find a paper an exact copy of the one Wm Pope and Lem wanted Bailey to sign and which he did sign; I witnessed the same and told gentlemen wanted your signature also; I had this made and send it for your signature as witness I will also sign and see Bailey sign and then exchange it for the one they have and send you it along —

Yours truly
Chas Batchelor

2 enclosures

Copy of letter given
to M. M. Borgo & Cie Lem
Nov. 15 1881

Paris Nov 15 1881

M. M. Borgo & Cie Elec Lem.

Dear Sirs,

We have under the request of Mr Edison and the Edison Electric Light Company of Europe (limited) read and approved the contract this day signed and delivered between yourselves on the one part and Mr Thos A Edison and said Light Company (represented by Mr Joshua F Bailey) of the other part.

Very truly yours obedient servants

Grosvenor P Lowrey

Chas Batchelor

10 Novembre 11

[redacted]

Paris

Monsieur,

Causant avec Mr Bazin ce matin Ce Monsieur a émis la pensée que nous pourrions peut être avoir l'occasion de nous servir de notre grande machine pour l'éclairage de l'opéra ; je vous prierais donc de vouloir bien me dire pendant combien de temps nous pourrions la garder au Palais de l'Industrie ou si nous devrons l'enlever du local à la clôture de l'Exposition.

Veuillez agréer Monsieur nos civilités empressées,

Ch. Batchelor

19 December 09

My dear Odum,

I find a [illegible] in the Opera machines — the commutators on all of them are made [illegible] after running a little the coppers either raise up or the mica lower down and we have to fell down the copper till they will no longer raise up — the difficulty is that when the coppers raise up above the mica the spaces in between gets filled with copper from the brushes and cause the machine came of my commutators from the armature have got almost red hot — they dont seem to be made anything like as solid as the old machines in the commutator

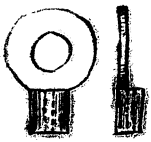
Yours

Baker

My brother

My dear Orson:

Suggestion:—



that the copper connection that fastens the wire to the brush arm be made of casting or as the copper wash used often when you are moving the brushes both together

Yours
"Batchelor"

1/3

22 novembre 01

Monsieur C. Pepin
2. Rue Blanche
Paris

Monsieur,

Je vous remets avec la présente détail des factures que j'ai payées pour le compte de la Société Manufacturière et Industrielle Edison. Ces factures sont acquittées. Mon secrétaire passera chez vous demain matin à onze heures avec ces dites factures. Il vous sera agréable veuillez lui donner un mandat pour le montant.

Agréez, Monsieur, mes civilités empressées.

Chas Batchelor

Nov 29 — 81

My dear Edison,

I find that there is great objection with Porges and Kern to having Parker on the boards of directors of all companies — they are willing to have him on the "Société Manufacturier et Industriel Edison" and at a pinch (such as Bailey not getting well) they would allow him on all, but they are very anxious that he should not be pushed on by your peremptory order in spite of their wishes — This places me in a very unenviable position inasmuch as I have to get Parker to help me in everything nobody else ordering any idea of "push" except Bailey and unfortunately I don't think we can have his services for at least 3 weeks more — They have no objection to Keen except that he goes into "air-balloons" etc and has no financial standing — I think you had better insist on him being on the "Société Manufacturier et Industriel Edison" and Bailey on all — As for myself you must do as you think best if you insist on me going on all I shall have to sell some stock to keep my place as for the "Compagnie Continental Edison" I should have to hold 6 shares 12500 Francs.

for the "Reviele Manufacturier et Industriel" "Edison"
20 Shares 10,000 francs and for the "Société Générale
Edison" 20 Shares 10 000 francs _____ I am going
to ask Mr Walker if he would be willing to leave
for a time if it was offered to him and I must also
ask some one else in order to advise you, if it is
necessary to get someone else — I do not know
whether the people I ask would lose 100 francs
Shareholders in the thing and I don't believe we
have any to give away — Mr Lowy may explain
these things to you better than I can and you
can take one any advice you may think
best. I have ~~heard~~ mind a good manufacturing
establishment near Rouen, and I have to go
and secure it myself; as they want to any thing
till they are organized — Will write you again
in this Packet and I go out there tomorrow —

"Dated"

PS. Mr Forgo said they had sent a "power" to you to have
you make your power of attorney like it — It would
please them to do as they want of Lowy was in Europe
Forgo says he would show me a copy but has not done
so yet. Yours (Enclosure)

Nov. 23rd

My dear Mr Lowry,

I saw Mr. Page yesterday and he confirmed himself very decidedly against Peckham being on any Board but the Management — He said that if Bailey should come to be with all the time it would only then be advisable, but even — more if he was on the Board Neither the Explanation he related he himself (that is Page) would have nothing to do with it except as a stockholder and would not be in Bank go into it — Should he have anything particularly against Peckham but on the same principle that he feels himself by his name standing along with Atkins he does not like to see his standard renegade of Peckham's in the direction of a large company — I think this is very unfortunate as it is not correct on Bailey's being good for much for a long time and Peckham is the only live man." Would then — Have seen Mr. Mathews and he cannot act on any Board but will be in the office & see in every way he will be [illegible] Happy to do so — I go to Toronto this [illegible] [illegible] Yours [illegible] —

Dec 9th

33 Ave de l'Opera.

My dear Isaac,

I asked you some time ago if you had received a small check for a few dollars payable to Bellamy's order which I sent you — Also if you collected from Goddard the amount which I asked you to do — I had a letter from Goddard saying he paid you the check and I have now a statement of account from Drexel Morgan and Co in which the deposit does not appear — Will you please give me a line on this, — Did you receive the check I sent you? Did you get the money from Goddard? Did you deposit same in my name in N.W.T. Co? — Everything here is lovely except that these people like everyone else want to be rich and tell everything is settled and turned over —

I should like to know what has been done about my rights & isolated stock. Mr Bellamy said anything about it to you

Yours Ritchie —

Samuel Isaac
65 5th Avenue
New York.

Dec 3rd 1

33 Ave de l'Opera

Major Eaton

65 5th Avenue
New York

My dear Major,

Will you have sent to me all the United States patents of Edisons relating to Electric Lighting after the date of the ones you already supplied to me in shape of a trend book for Exposition purposes —

Mr Lowry being with you now, it is useless for me to begin to give you any of the details of the struggle we had here with our contract —

This thing goes awfully slow for me and I chafe considerably at the delay we have numerous orders but with such exceedingly prim people it is very difficult to do anything until they have the confidence formed and everything is completed in what I should call a Yankee style —

Of course my time is kept and I am making pretty good use of it in factory matters. I have seen no less than 44 factories in Paris and vicinity and

expect to decide in a day or two —

We sent by cable to day an order to Edison for a complete plant to be shipped to Harrisburg. These are to be forwarded by us to Pittsburg where they are all sold and will be taken care of by a man who takes a great interest in the Light and whom I have instructed considerably since he has been in Paris; I believe Mr Cherry knows him; it is a Mr Mitchell —

The plant we sent to Harrisburg is doing well and I believe we shall have a company for working Harrisburg immediately after our own companies are formed —

The Opera House plant works well and all the time; unfortunately Bailey's sickness prevents him giving us any aid at present and our opponents bring Senators ministers and everybody else to their aid — just at the time we need more help however I have wakened Mr Pogue (who by the way has lots of friends around) up and I think perhaps by strenuous efforts we shall succeed.

Yours Truly

Chas Batchelor

Major Eaton
66 5th Avenue
New York.

Feb. 6 1882

My dear Lenbel,

Yours here with receipts; I send you a check for $877.55 — the balance of your account was $904.75 but as you told me to take out the 27.20 I lent you I have done so. I have put you now directly on the books of the Electrique Soiè and you will now report directly to them and send your accounts there — Mr Bailey is on the committee that will work this and he will look after your letters — Anything I can do for you about your family I shall be glad to help you — I don't want you to think that what you now are is all you will be here as I expect you to figure prominently in the Continental Company and I think you will agree with me that you

Yours
Batchelder

13/34

8 Decembre — 11

Mme Chave Propts 2 Rue Blanche 2
Paris

Monsieur, J'ai l'avantage de vous
remettre ci-inclus les factures que j'ai
payées et qui doivent être passées au
compte de la Sté Manufacturier et
Industriel Etrien —

16 Factures total Frs 2743.20

Agreez Monsieur, mes civilités empressées

Chave Bertrand

3e Chambre 61

Monsieur Vve Porgès
2. Rue Blanche
Paris

Monsieur, j'ai l'avantage de vous
remettre ci-inclus les factures que j'ai
payées et qui doivent être passées au
compte de la Ste Nicolaïeff Estampes de la
Moller 433.33
Sieber 3 ~~[illegible]~~ 75 498.08
Agréez, Monsieur, mes civilités empressées

M. Batchelor

Doc 75

Mons Ch. Porges. 2 Rue Blanche
Paris —

Monsieur j'ai l'avantage de vous remettre ci inclus une facture déjà payée par M. Pictet et qui doit être payée au compte de la Société Electrique Edison

— 2463.03 —

Agréez Monsieur mes sentiments distingués

Ch. Bartelle

14 December 81

38 Rue de l'Opéra

My dear Edison.

I have succeeded in putting all our men (that is Henris, Sickel, Force, Jackson, Kipp, on the payroll of the different companies from the 1st of November. In regard to Force during the time he is with me I wish you would continue to pay his wife $12 per week as you have all along done and I shall refund you the same every three months for his salary. — Also don't fail to let me know how much you have paid Mr. Sickel so that I can refund you that —

No doubt you think we are a long time getting started in manufacturing but it has been very difficult indeed to find the right place — I have been in no less than 53 mills and factories within 100 miles of Paris and have often thought of splitting it up into 3 or 4 shops, but now I think I have a prospect of getting the building shown in the enclosed drawing. Of course we could not buy this from our capital but I have been working on them and Lakey two of our directors have bought it and rent it to us which I believe they

2.

will do — It is built of stone and brick and is just as good looking as it is in pictures —
It is outside the walls but at such a short distance that it is practically the same thing as being inside ——— I don't like to say now that I shall have it but I am making strenuous efforts and the prospect looks good — We have had 2 meetings of our intended boards and they propose to meet every night & transact business every night at 4 p.m. So the fall has fairly opened ——— Porges the head and front of the concern is a very secretive man as probably Mr Lowry has told you I find however that I can get anything I want by simply making him believe that he is the originator of the desire & have the thing I want ——— At the boards when anything was proposed (no matter what) he starts off with a loud blustering objection on general principles and succeeds in convincing himself in about 5 minutes that the man who proposed it is a damn fool afterwards when the proposer insists he takes up the proposition himself and does all you want as if it was his own I have an amicable row over everything ending in my getting all I want —

I have done my best to procure for Dr Kuser a position in the formation of companies for Germany which would be very lucrative; and he is now under consideration by the board — I am afraid that Porges who was very favorable to him, has been literally talked to death by him, and feels that he dont want to bother with it till everything else is done towards factory etc — Mr Bailey who is recovering asked me also to tell Porges that it would be exceedingly disagreeable to him to have to work with Moses. ~~[illegible]~~ A thing I of course could not do, but it makes it hard for me to work for him — He wants an exclusive agency for the whole of the German Empire with 2% interest in everything, (whether he works it or not) and all expenses and $250 in work besides — Of course when this proposition was passed round we all with one accord put our pens through the word exclusive — Lots of my lamp factory stuff I am making outside so as to be ready when I have my factory.

Tell Kuser to write ~~Mr Cleveland~~ and give him all the history and I will take them. Tell him I dont want a big salary man

Yours

Bartelo

76 / Décembre /.

33 Ave de l'Opéra.

Monsieur Charles Forgès
Paris.

J'ai l'honneur de vous accuser réception de votre lettre du 14 c.t ainsi conçue :

" J'ai l'honneur de vous informer que suivant votre désir je vous ai souscrit pour la somme de f. 22500 dans les trois sociétés suivantes en voie de formation :

" Soc. Ind. & Com. Edison pour 15 actions de 500 f. entièrement libérées
" Cie Cont.le Edison " 5 " de 500 f.
" Soc. Electrique Edison " 10 " de 500 f.

" Je vous préviendrai ultérieurement en vous remettant les bulletins de souscription, de la date à laquelle vous aurez à effectuer les versements à la Banque Centrale de Com.ce 22 de l'Ind.e 27, Rue de la Ch.e à Bruxelles. Les titres sont indiqués seront nominatifs et inaliénables pendant les six mois qui suivront la constitution de ces trois sociétés. En conséquence aucun transfert ne sera effectué pendant ce laps de temps ;

sur le contenu de laquelle je suis d'accord avec vous.

Veuillez agréer, Monsieur, mes salutations très-distinguées.

Ch. Batcheler

Dec 1/12 P1

Mons Ch. Porges —
27 Rue de la Chaussée
D'Antin —

Monsieur,

J'ai l'avantage de vous remettre ci-incluses les factures que j'ai payées et qui doivent être passées au compte de la Société Electrique Russe — Savoir :—

Telegram.	Fcs 21.70
Cable	18.45
Berville	67.15
Cable	55.10
	Fcs 162.80

Agréez Monsieur, mes civilités empressées

Ch. Batchelor

48/50

Dec 1/11 11

Mons Chas Porges
27 Rue de la Chaussée d'Antin
Paris.

Monsieur, J'ai l'avantage de vous remettre ci-inclus les factures que j'ai payées et qui doivent être passées au compte de la Compagnie Continental Edison savoir :—

Calle	Fr. 50.40
"	30.20
Lacroix	64.60
	Fr. 144.80

Agréez monsieur, mes civilités empressées

Chas Babelon

49/60

Dec 14th 81

Mons. Chas Porges
27 Rue de la Chaussée d'Antin
Paris.

Monsieur,
J'ai l'avantage de vous remettre ci-inclusses les factures que j'ai payées et qui doivent être passées au compte de la Société Manufacturière et Commerciale Edison

Savoir :—

	Fr.
Larrue =	175.00
Aylmer =	1400.00
Flach, Franquelin etc —	147.00
Martineau	300.00
Parent	79.40
Batchelor	234.05
	Fr. 2335.45

Agréez Monsieur, mes civilités empressées,

Chas Batchelor

Dec. 19th 1

39 Ave de l'Opera

Major Eaton
65 5th Avenue
New York.

My dear Major,

Yours of the 30th to hand — I should be very much obliged to you indeed if you could keep me posted as to affairs for although I occasionally get a letter from others yours give me much more general information — Was very sorry to hear of Mr Edison's death — I have been rather unlucky in my bank accounts; this Newark bank, being the second I have been caught in — I have asked Edison in a letter of today to pay you the $150 and charge to my account —

Our directors meet every night to transact business in our offices (that is P + B) and we shall now be able to do something, it will still take about a fortnight as they are slow to decide things unless the patents are turned over. Our directors in the Companies are:- Compagnie Continentale Edison:- Batchelor Bailey, Pueskas.- Société Electrique Edison:- Batchelor - Bailey - and another not named Société Industrielle et Commerciale Edison:- Batchelor ~~Bailey~~ Pueskas, Chatand, de Parville and another — Yours Batchelor —

~~46~~ 64

19 December

Mr. A. Allison Esq
65 5th Avenue -
Newport.

My dear Allison,

Major Oaten kindly took $1500 - worth of bonds for me and I sent him cheque on which was the "United" Newark bank — If convenient will you pay him the $1500 necessary and charge to my account —

I have had a very unfortunate mishap at the Ottawa Lake My boiler gave out so that I had to put a whole new set of tubes in we are working all hours to finish it but it makes a very bad impression.

Yours "Gates"

Dec 19th 1

C.H. Johnson

87 Holborn Viaduct
London.

My dear Johnson,

The large dynamos at the exposition had on 1500 half lights and for 1 hours run burnt 294 lb. coal; It took about 250 lb. coal to keep fires in at night and till evening, so for our 3 hours run we had: —

882 lb coal 250 lb coal } = 1132 lb. coal	Fr. 18.11
1 Fireman Fr 4, 1 Engineer Fr 7, 1 lampman Fr 6	20.00
Extra working expenses, wear and tear etc, etc, per night —	40.00
	Fcs. 78.11

Now 1500 half lights lighted by gas would cost 4½ centimes per hour each or
1500 × 4½ = Fr 63.75 and this
multiplied by 3 hours — Fr 191.25 —

Of course your gas will be cheaper there, but you will see that we have a good margin for profit in Newyork and Paris — We never had to use our blower with this load. Our chimney giving us amply sufficient draught for this load —
In the Opera House we have 480 lights

these replace gas jets and it has been acknowledged that they light it up better than the gas. We run 5 hours each night that is:—

1 Engineer Fy	Fcs. 7.00
1 Dynamo and lamp man.	Fcs. 7.00
1100 lb Coal for the 5 hours run and starting fire	Fcs 17.60
Interest and depreciation	25.00
Sundries etc	10.00
	Fcs 66.60

480 gas jets at 4½ centimes per hour for 5 hours = 480 × 4½ ¢ = F 21.60 × 5 = Fcs 108.00

So you see with even ~~even~~ an installation of 500 lamps it is possible to show very good figures

I have just had a very unfortunate time with my Robey engine; it began it leak in the tubes and for about a week they were patching it up, then they informed me that we must pull all out and put a whole fresh lot in which I am now doing — I am afraid it will injure us some — the machines never worked better than they have since the last 3 weeks being always sure and wanting no watching — Of course I have fined them a good deal — Littel is not working for me have sent him word to go to Spain

Yours [illegible]

0/13

My dear Doctor, Dec 20 1888

Edison asks me to tell you that in view of my cable to him of the sixth his cable is so strange that I cannot reply without full explanation by mail

Dr Moses Batchelor
14 Rue Tilsitt
Pa.

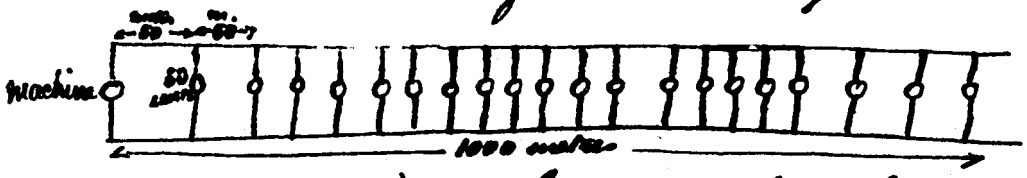
Dec. 22. 1

93 ave. de l'Opera.

Chas E. Clarke Esq
65 5th Avenue
New York —

My dear Clarke,

I wish you would send me all the diagrams you have relative to the "Drop of Cond." — Also any formulas you have for our system that will be valuable to me — For I know you have calculated many — Especially do I want such as relate to the size of conductors — Can you send me anything showing the calculations of the New York conductors? — Also have you a short method of calculating this?



1000 lamps in 20 bunches, of 50 lamps each 50 meters apart
Volts 103
Lamps 130 ohms.

Very truly yours
— Chas Batchelor —

0/100

22 Dec 1881

Mr E.H. Brandon
1 Rue Laffitte Paris

Dr Sir

I have through the kindness of Mr Hayet succeeded in making in the Shop of Messrs Hayet and Signeroux, three very good carbons of Cotton Thread as specified in Series No. 3 of Edison Patents on Electric Lamps. I hope within one or two days to see them in the Glass bulbs and the vacuum produced.

I will write you as they progress.

Very Res. Yours.

Ed Acheson

50
61

Dec 23rd. 1

33 Ave de l'Opéra.

Chas Porges Esq
27 Rue de la Chaussée d'Antin
Paris

Monsieur,

J'ai l'avantage de vous remettre ci-inclose une facture que j'ai payé et qui doivent être passé au compte de la Compagnie Orientale Salon-
Savon.-
H. Davis. 352 Fcs.

Agréez Monsieur mes civilités empressés

Chas Batchelor

60
63

Dec. 24

33 Ave de l'Opéra.

Chas Forges Cy
27 Rue de la Chaussée d'Antin

Monsieur,

J'ai l'avantage de vous remettre ci-inclues les factures que j'ai payées et qui doivent être passées au compte de la Société Electrique Edison —

Savoie —

H. Davis	Fcs 352.00
Au vieux Chêne —	76.10
" " "	126.10
Ph. Dubel.	95.25
" "	238.50
Mme Mc Flach. —	97.70
	Fcs 985.15

Agréez Monsieur, mes civilités empressées

Chas Batchelor —

Déclaration à joindre au certificat N° 37 de 50 actions de £ 100 de la "Edison Electric Light Company of Europe (Limited).

Je soussigné Charles Batchelor, titulaire du Certificat de Cinquante Actions de £ 100 de la "Edison Electric Light Company of Europe (Limited), déclare par le présent avoir reçu la contre-valeur des dites 50 Actions.

Paris, le 24 Déc. 1887.

Chas Batchelor

61
72

Dec 24th

Mes Dames &
27 Rue de la Chaussée d'Antin -
Paris

Mesdames

J'ai l'avantage de vous remettre ci-inclus les factures que j'ai payées et qui doivent être passées au compte de la Société Industrielle et Commerciale Edison Lavoir. -

Cable:	Fr. 15.10
Papeterie du Bon Marché	6.50
Trouillet	7.00
Nacl. Maximen, frenquel.	126.00
Batchelor	191.20
Hennis	849.50
	Fr. 1194.30

Agréez Mesdames, mes civilités empressées

Ch. Batchelor -

52
9

December 24 /

39 ans de l'Opéra.

Major Cates
65 5th Avenue
New York.

My dear Major.

Will you kindly send me a copy of the statutes of all companies in New York? Our boards of Directors propose to take 15 per cent for their services. We think this too much, and as I privately believe, everybody else, except Mr Forges. He however says that he will not sit on the board unless he has that much. I told them I should not sign any thing away until you knew these matters and if it becomes necessary to sign the papers before this reaches you I shall certainly cable and get your approval or refusal to the 15 per cent — It seems to me that we have made concessions enough without paying out enormous salaries to 'directors' —
On receiving this please cable approval or otherwise concerning this matter — I find these people think a great deal more about getting their money back immediately than the exploitation of the 'Light' and I shall feel safer when I get a large factory running

Yours Batchelor

Paris le 1er 1881.

Monsieur Chas Pagès
27 Rue de la Chaussée d'Antin.
Paris —

Monsieur,

J'ai l'avantage de vous remettre ci-incluses les factures que j'ai payées et qui doivent être passées au compte de la Société Industrielle & Commerciale Edison.

Savoir :—

Chas Flach	—	Fcs 42.00
Batchelor	—	55.80
Hipple	—	600.00
F. Martin.		110.00
Müller	—	250.00
Hennis Labor & c.	—	528.14
Cable	—	20.10
F. Martin	—	110.00
Chas Hennis	—	438.18
E. G. Acheson	—	600.00.
		Fr 3054.22

Agréez Monsieur, mes civilités empressées

Chas Batchelor

63

Dec 31st 1881.

M. Chas Forgés
Rue de la Chaussée d'Antin
Paris

Monsieur,

Au Rapportage de vous remettre ci-inclus les factures que j'ai payées et que doivent être passées au compte de la 'Société Electrique Edison' —

Savoir:—

M. Lanie —	Fcs 175.00
Chas Flach.	42.00
Franquelin & Mannier	42.00
M. V. Force	600.00
Etienne Fodor	70.00
J. K Wilem —	165.00
	Fcs 1094.00

Agréez Monsieur, mes civilités empressées

Chas Batchelor

Dec 31st 1881

Dr. Moses.
14 Rue de Tilsit
Paris

My dear Dr.

I have received a cable from Mr Edison in which are the following words :— "Tell Dr. Moses will (ask) five hundred dollars meet immediate wants pending action of Edison Electric Light Co of Europe if unable arrange with Porges better return"

Have given at his word

Respectfully Yours.
Chas Batchelor

Dec 31st 1881

My dear Insull

Please put in our code the following:—

Absolute:— Chas Porgès —
Absolution: Edmond. Lebey — Director Compie Continental Edison

Absolve:— Louis Rau — ditto. —
Absorb: Manier — ditto —
Adjacent: — Compagnie Continentale Edison
Adjoining: — Société Electrique Edison —
Adjourn: — Société Industrielle et Commerciale Edison —
Bravado: — Compagnie Contle Edison Stock —
Bravol: Société Electrique Edison Stock —
Bray: Société Indle et Commle Edison Stock

Yours
Chas Batchelor —

Samuel Insull
65 5 Avenue
Newyork

January 2nd

My dear Johnson,

Yours of 29th and 31st to hand.

Case 933 was never sent that is there never was any case 933 the labels for same were destroyed — The Phonograph I had intended to have put in order to show here to anybody interested in Edison, thinking of course that you of everybody else would be amply furnished with phonograph apparatus and I could take it with me when I go home — but if you want it I will send it you — the condensers and the telephones 6 in number I was going to charge to the factory — the condensers we never use on Quad. and I thought we might want them here — Have only very little white wire and was just giving Bergman an order for more — I think this is all I have intended to keep. Of course I have sent you on chandeliers & pockets, lamps, etc — Singing tel. transmitter and phono-photograph must be engraved and I am now waiting for same — the singing telephone was exhibited by Hammer at the Continental hotel and I think perhaps some part were taken by the boys in their pockets home I will enquire — I have just added an order to Bergman and Co for 200 pump resistance boxes — I shall shortly give him

a pretty good order — I am now getting all information on the different Dynamo machines on the market in view of putting our lamps on them where people have bought them and I will give you the results of what I am doing — I should like some information on your experiments on the Thompson-Houston motor — If you will give me a list of all the isolated plants you put up during each month I will also give you one — Your cable from Edison is very good news 1300 lamps sounds first rate. Has he reduced the resistance of the Armature?

Yours
Patrick —

January 2nd 1880

Chas Pinges Esq
2 Rue de la Chaussée d'Antin
Paris

My dear Sir,

In conversation with our lawyers today I learn that it is necessary for them to see the 'powers' sent to myself and Mr Bailey — Will you kindly send me the 'French' 'Belgian' and 'Italian' ones which you took from the last meeting — they also wish to see the certified copy of the Statutes of the 'Edison Electric Light Company of Europe'

By doing so you will oblige

Your obedient servant

Chas Ratchelor

January 2nd 1880

Monsieur Louis Ravi
45 Rue de Lisbonne
Paris —

My dear Sir,

In conversation with our lawyers I learn that it is necessary for them to see the "Proofs" that have been sent to myself and Mr Bailey Will you kindly send me the Danish, Russian, German Empire, Austro-Hungarian, and Spanish — which you took to look over from the last meeting of the Board of directors By doing so you will much oblige

Your obedient servant

Chas Bolton

Jan 2nd 1881

Samuel Insull Esq
65 5th Avenue Newport.

My dear Insull,

Put in code:—

Constipate = Send ⊔ 2 Dynamos with 60 full lamps each

Constraint:— Send ⊔ 2 Dynamos with 40 full and 40 half lamps with 40 turn off sockets and [illegible]

Construct:— Send ⊔ 2 dynamos with 120 B lamps and all plain sockets

Adjutant: Pratt as and Bailey

Consult:— Send ⊔ extra brushes for 2 dynamos

Along:— Draw on ⊔

Yours

Batchelor

(Please acknowledge)

Jan. 9th. 1882

Chas Forges Esq
24 Rue de la Chaussée d'Antin
Paris

My Dear Sir,

Enclosed please find the bulletins of Subscription for:— (5) five shares of the Compagnie Continentale Edison, (10) ten shares of the Lux Compagnie Edison, and (10) ten shares of the Société Industrielle et Commerciale Edison, signed by me together with their "powers" (to secure the payment of £22.600; I believe it was understood by Mr Leon, yourself and myself that this amount would be paid for me by Mr Leon; he receiving (45) forty five shares of the Stock of the Edison Electric Light Company of Europe (Limited)

Very respectfully yours

Chas Batchelor

Jan. 4. 1882.

99 Ave de l'Opera

Western Electric Mfg Co
New Cortlandt Street
New York.

Gentlemen,

Since being in Europe I have found quite a demand in some countries for "Electric Pens"; and have orders for some now if I could bother with them; Will you be kind enough to tell me the lowest price at which these people can get them from you in lots of 3, 6, or 12 and the manner of their payment?—

Also in what manner Edison and myself benefit from such sales?

Very truly Yours.

Chas Barclay

Jan. 5th 1881

My dear Insul,

I find there is going to be quite a demand here for Edison Electric Light Co of Europe Stock as people are continually coming to me and wanting to buy — If you will get good prices and give me your private cable address I probably can help you to turn over something — what I should do would be to cable you. Can you procure as many shares for as much and if your answer is in the affirmative I will cable you the money and you can remit the shares to me I do not care to bother about this business myself but the people here are my friends and I should like to have any benefit if you can get them for lower than they want them

Yours Batchelor

Enter in our Code book:—
Index :— Can you get ___ for ___

Jan 7th 1882

E. H. Johnson Esq.
57 Holborn Viaduct
London

My dear Johnson,
Your telegram received — enclosed find receipt which you and I can settle anytime as I do not wish it to enter into any of our company accounts —
Will write you fully tomorrow on the matter you speak of —

Yours
Chas Batchelor —

Packard got a cable today saying Fabri bought from Edison Dynamo with 4 lamps and apparatus for Brussels —
Have just bought 50 lamps of Brussels light & Power — How's that? I broke

2

where the devil they come from?? —
I should like very much to come out
but. Oh!! well! you have no conception
how damned slow these Frenchmen
are

Yours
Butchelor

1 Enclosure

I'm collecting Clubs & all the Club
we had at Palau — and will send
you copies of all we have in a few
days

B.

96

January 9th 82

Thos A. Edison
65. 5th avenue New York

My dear Edison

I confirm my cable last night as follows.— "Ekroside New York. Execute in French literally and without change as used recite patents cable me that this will be done" — I have this morning received Mr Lowery's letter and power and shall submit it to our counsel to morrow — Glad to hear Fabri has given the works a good order — I am using that to good advantage here I think with these fellows

Yours

Chas Batchelor

Jan 9. 1882.

Mr. A. Edison Esq
65 5th Avenue
New York

My dear Edison,

We have just started our Strasbourg plant and it is working nicely in the Gare or R.R. station there — The first night was eventful as usual; that is that although we had only in 35 lights after running 4 hours a man noticed fire coming out of armature at back side! Had bucket there and after he stopped he investigated it and found that ½ inch of a top layer and ½ inch of a bottom layer had burned right away and he had to patch in again as much — This was defective insulation between the two — Of course I knew anything about this but nevertheless as it never stopped — I am very much afraid that they do not give these machines a 5 hours trial with a load on, or you would certainly see these defects remembering the many nights I had to put in at the Opera House, destroying them up, I always feel scared till I hear that they have run two or three days with a load on — These make more vigorous trials:

Yours

Chas Batchelor

Jan 9 1882

Philip Suebel Esq
Strassburg —

My dear Suebel;

Your letter of Jan 6 1882. to hand, Glad to hear of your success there. You had another close shave and I shall warn them on the other side of the danger of sending these machines out without full trials —

Before leaving there be sure and see after these:—

1 Solder the brass wires in more places —

2 Take the brass wire off that holds the wires in the vulcanized disc and substitute a cord.

3 If possible round out the corners of the hole where the armature runs. —

I send you tomorrow the following:—

1 Barrel A lamps
1 " B "
1 Barrel of { 100 Shade holders
24 Shades
1 Box of 100 Sockets —

Give me the number in each barrel of lamps. Deliver to Schultze what he wants and let me know what it is as I can then bill the goods — Keep the rest I shall send you instructions tomorrow night

We will send any thing ordered: shall I take the orders as genuine you send

Yours
Chas Barnett —

Jan. 9th 1882

(NOTTBECK)

Puskas and Nottbeck
4 Voznasenskiy
St Petersburg

My dear Nottbeck —

Your first machines have arrived in Hedinburg and we shall have them immediately shipped up to you — Do we send them to St Petersburg or Tammerfors? When shall I send the man as to erect the wiring if we started then at once send us all instructions immediately. Puskas and I are trying for your contract and we shall get it but it requires a little patience as these people do not feel inclined to rush things but they are confident. Yours Patricio —

Jan 10 1882.

The Daily Telegraph.
135 Fleet Street
London

Gentlemen,

Enclosed please find "post office order" for £0.38. for Daily Telegraph to be sent for 1 quarter to

Yours truly
Chas Batchelor
24 Rue Berlioz
Paris —

1 Enclosure.

Jan. 10th 1882.

J. Siebel Esq. Strasbourg

My dear Siebel,

Will you copy my letter received from Geo Andreo of Vienna and requesting information on Light. I have written him and told him that I should send a gentleman up and show him our Camp on his Siemens machines so if you have time take up some of your kind of lamps and make a trial there — You must let us know these things: 1 What are the machines called: 2 What speed they run to light up the A or B lamps and all particulars. If you can make them go we will fix up their clock for them. I think I'll send a lamp out with you what do you think? Your Bartolda

Jan 12 1882

Dear Porges.

I have received the following cable this morning:—
"Fifteen per cent demand exorbitant, Labory insisted in contract following "usual and reasonable compensation" afterwards based on statement made that compensation was usually five thousand francs dont consent fifteen"

You will see that our exception was well taken as they think it a very exorbitant demand.

Very respectfully Yours
Abbe Batchelor

Chas Porges Esq
27 Rue de la Chaussée d'Antin
Paris

33. Ave de l'Opera
Paris. France
Janry 13th 1882.

My dear Johnson

Your article on the phonograph for the "Scientific American" of Nov 17. 1877. I believe to be the first published account of the phonograph therefore I think you are mistaken in the date of your little hand book which might have been at the same time but not before this. I believe however the experiments which we tried and was successful that is of pulling a strip by hand through a groove and producing thus a note that had been sung on it before by the same operation was done in July or August 1877

I know among our telephone drawings at Menlo there was one in July 1877 that shewed the phono used as a telephone receiver. Yours truly

Chas Batchelor

E. H. Johnson Esq
57 Holborn Viaduct
London.

(1)

39 Ave de l'Opera
Paris France
January 12th 1910

My Dear Wilbur

65 5th Avenue Newyork

The first lamps embodying single resistance carbon conductors burning in vacuum that I remember to have made under Mr Edisons instructions were made in Jersey in July 1887. The carbons for these were made from carbonized jaquar about 8 or 9 thousandths thick 7/16 in width and about 3/4 to 1 inch long.

In all the conversations I have had with Mr Edison he was always given me to understand that the most essential point in his system of lighting was a high resistance lamp, and when I made the lamps for him on my side one that I made had a smaller resistance than the preceding ones, in order to do what he expressed it he gave him a greater resistance. At this time he often used the terms incandescent and incandescent in this system of lighting which (but does not work being dry and might also not the details of the phenomena) he developed by a great number

of experiments, very many of which we participated in. Later on in the spring of 1878 he experimented extensively on high resistance substances such as [illegible], selicon, and carbon with oxides. I know that there are sketches in existance showing these experiments, and these sketches will prove, I think, that Mr. Edison's main object was at that time a high resistance lamp.

During the fall of 1878 he tried extensively again carbon conductors in vacuum and though he succeeded in making high resistance conductors, he found great difficulty in making them stand as the imperfect vacuum that he got would oxidize them quickly.

I remember he told me often at this time that he was sure that there would be no difficulty in getting the resistance we wanted with carbon if we could get a good vacuum and maintain it.

As far as I remember it was always Mr. Edison's intention to work in a vacuum and although in his experiments in platinum in 1878, it was not much used, it was because he was studying the properties of the metals with high fusing points.

Examined & attested Gottsberg. What he knows of abovestated facts, he early in 1879

used the vacuum on them also, and to such purpose that he made very successful lamps having all the requisite.

These may be stated as high resistance conductors, hermetically sealed in an exhausted continuous glass globe.

In April 1879 applications were filed for these lamps. During the summer of 1879 we often tried carbon in hermetically sealed glass globes in the shape of carbonized paper, thread, flax, broom corn, etc, and many such lamps were made by me during July, August, and September of 1879, a number of which are mentioned in a patent filed Nov 1. 1879.

In October 1879 T. Edison began to manufacture these lamps in quantities, as also others having [illegible] carbons, and has continued to make them ever since. If there is anything of value in this I can make a sworn statement of any part of it.

Believe me yours truly
Chas Batchelor

C. F. Wilkin Esq
66 5th Avenue
New York.

No 33. Ave de l'Opera
Paris. France.
January 13 1881

Major S.B. Eaton.

Your of Dec 30th to hand and I fully appreciate the breadth of the power sent and shall endeavor to use the greatest discretion before signing — We are now pretty well agreed on all points except the 15% to the board of directors.

This we have fought strenuously because I consider that to accede to anything like this amount was disgraceful. Mr Porges has all along said that if it was not allowed he would not sit on the board Now after Mr L Cauvy went away P. told me to go ahead and get things going for factory I accordingly started men making things for the same in two or three shops, but as soon as I made an objection to agreeing to the 15%. before consulting you he sent me a letter telling me he should not pay another cent until the Co was formed leaving me with over 20,000 francs of bills to meet.

The instances where 15% has been given our lawyers say are few comparatively and in the cases which Porges has cited large amounts have been paid

previously in dividends whilst in our statutes for Continental Co it is paid immediately after the legal reserve and only second to that I understand because the law requires that first.

I should be very sorry to complain and of course it is very necessary to go head and do something, and we like to give all concessions that we can honestly, but when I tell you that Mr. Porges has said in my presence that he had not 80.000 francs in the thing, and that as you know he has 8% of the founders shares, sits on all the boards, and then insists on 15% where he knows that if we only make a contract ~~that if we only make a contract~~ for one town, of 1011.000 inhabitants, the Board of Directors would receive {135,500 / 127,500} fr; you can easily see what an acquisition we have made in Mr. Porges.

The 15% matter has been reduced by us to 11%. Mr. Porges having a larger portion of this, than any others except the President, it was suggested that the excess that he got should be for the Vice-Presidency, but he immediately gave us to understand that he did not care a button for the office, but he must have

the money adding afterwards that of course it would be agreeable to him if they voted him V.P. but that must have nothing to do whatever with the money.

This he wants us all to agree to in writing as he does not believe our word. This agreement should have been made to day but I said I could not do so without getting cable from you..

I sent Edison a second cable to day to give me answer quick & must know whether accept 11 % - to refuse this now means ~~[illegible]~~ beginning all over again!

The answer to this will decide me what to do. Mr McGill our notary has altered the statutes so as not to embody anything different or conflict with the statutes and I believe he has done so. Mr Bailey, Mr Puskas and I are in accord on all points but in order to be doubly sure I ask to-morrow Mr. Moreau to look over them and compare them with the contract.

Excuse this as I have to catch mail

Yours very truly
Chas Batchelor

P.S. Their notary also is in accord with our alterations -

Jan 13 1882
39 Avenue de l'Opera

Henri Hermann Esq
My dear Sir I should like
to have a rendez vous with
you tomorrow if possible —
Our Statutes for the three
companies are now in
a state where we are in
accord on both sides and
I should like your opinion
as to whether they conflict
in any way with the Contract
Yours truly
[illegible]

my address at home
24 Rue Berlioz

Jan 18th 1882

Martin M. Force Esq
Lingg's Hotel
Hamburg.

My dear Force -

Yours of 12th and Fodor's of 15th to hand - I called you Jan 16th not to take the rooms too small — As soon as you get these rooms immediately commence to fix up so as to have convenience — Tell Mr Fodor that he must board privately and not at a hotel as he will be there perhaps 3 months — Be quick and send the machine to St Petersburg - Why did you not send me a list of Expenses and the receipts last Saturday Yours Batchelor —

31/129

Jan 19th 1882

Cable:-
Bergman Worster St Newyork
Will take thirty cd
Pretty Patterns

133

Dec 31st 81

Monsieur Chas Porges
27 Rue de la Chaussée d'Antin Paris

Monsieur,

J'ai l'avantage de vous remettre ci-incluses les factures que j'ai payées et qui doivent être passées au compte de la Société Industrielle et Commercial Edison

Savoir:	Chas Flach	France	42. " ✓
	Batchelor	"	55.80 ✓
	Hepple	"	600. " ✓
	P. Marton	"	110. " ✓
	Moeller	"	250. " ✓
(Labor ofc.)	Hennis	"	738.18 ✓
	E.G. Acheson	"	600 " ✓
	Cable	"	21.35 ✓
		"	12.60 ✓
	Meteier	"	188.45 ✓
	Quittance de Loyer	"	120.10 ✓
	Puttat & Cie	"	1250. " ✓
(Expense.)	Larrue	"	22.25 ✓
"	Chas Batchelor	"	13. " ✓
"	et Palais de l'Industrie	"	212.65 ✓
	Walcker	"	75. " ✓
	Hennis Labor Pr.	"	~~528.14~~ ✓
	Cable	"	20.10 ✓
	A. Marton	"	~~100. " ✓~~
			4969.62 Francs

Agréez Monsieur, mes civilités empressées

Chas Batchelor

Lettre 8/14 8.

Mr. Chas. Porges.
27 Rue de la Chaussée d'Antin
Paris

Monsieur,

J'ai l'avantage de vous remettre ci-inclises les factures que j'ai payées et qui doivent être passées au compte de la Société Electrique Edison

Agréez Monsieur
mes civilités empressées.
Ch. Batchelor

(Montant des factures ci inclus Fr. 2401. 70.)

M. Larrue	175. "	Fr.
Chas Flach	42. "	"
Franquelin & Moreinar	42. "	"
M. Force	600. "	"
E. Foder	70. "	"
J. R. Welson	165. "	"
Cable Dec 24.	23 85	"
" " 31	2.90	"
" Jany 2	26.35	"
" " 3	4.50	"
" " 5	7.90	"
" " 6	2.50	"
Chaix & Co.	34.10	"
Moeller	200. "	"
Foster	100. "	"
Larrue	100. "	"
Flach	50. "	"
Cable	3.70	"
Cable	3.30	"
Larrue	75 "	"
Stamps	25. "	"
Telegram	1.10	"
Acheson	300. "	"
Telegram	3.10	"
Tel Cable	17.60	"
Telegram	2.70	"
Cable Russia	10.90	"
Acheson	300. "	"
Expenses C. Jackels	13.20	"
	2401.70	Francs

December. 31 80

M. Chas Pergee
27 Rue de la Chaussee d'Antin
Paris.

Monsieur

Jai l'avantage de vous remettre ci-incluses les factures que jai payées et qui doivent être passées au compte de la "Compagnie Continental Edison"

Agreez Monsieur
mes civilités empressées
Chas Batchelor

Savoir Chas Batchelor. 32. " Fr
E. Kormaud 5. "
North Atlantic Express 3.20
" " " 5.70
Telegram N.Y. 46.35
92.25 Francs

Johnson 57 Holborn Viaduct
London
Give me cost of your installation
thousand lamps private use
at Viaduct Batchelor

33 Ave de l'Opera Jan 20 1882.

Jan. 20th. 1882.

Mr. A. Edison Esq
65. 5th Avenue
New York.

My dear Edison,

I have just mailed proxies from myself and wife for you to vote for us at stockholders meeting of the Edison Electric Light Co in favor of increasing the capital stock from four hundred and eighty to seven hundred and twenty thousand dollars

Yours Betteley

Jan 20th 1882.

Mr. A. Edison, Esq
65 5th Avenue
New York.

My dear Edison,

Your regulator idea is good and am glad to hear you are sending me one — You may be sure I shall take all precautions necessary for the bringing in of the model. etc —

I have now opened an office or rather reshipping place at Hamburg and have got Force and another young man there fitting it up — Hamburg is a free port — I shall send Force to Finland very shortly to put up 5 plants there — Acheson is at present putting up a plant in Milan Italy and Seubel is doing good work in Germany — I have an order for lamps for Krupp's works at Essen and I am going to send Seubel there to put them on the machines as they want to use the machines they have been using for arc lights — How about your arc-light? Is there anything new on it?

Yours
Batchelor

Angl American
Bergman Wooster Street Newyork.
can cable you money for thirty at seventy
Baldreto

119/1

33 Ave de l'Opera Jan 25 1882.

Anglo american

Chloride Newyork:- No drawings cutting moulds yet send quick both moulds if you can spare from lamp company to Hamburg I can get them in as models.

Bethela Ave de l'Opera 33 Jan 25 1882.

33 Rue de l'Opéra. Jan 25th 1872

Bigmann & Co
18 Wooster Street
New York.

Gentlemen

On Dec 21st 1871 I telegraphed Edwin to have you make for me (600) six hundred resistance boxes for pumps. On Jan 9th I also telegraphed him that you make (500) five hundred nickel cuvettes for me and asked if you could make the mercury cups. I have had no answer & fear he cannot take 5 Kilos of them you are making them as I must order many more as soon as I know you have them finished — Is there anything else you make for Upton that I shall want? Send me also the price of these things — And when done let me know and I will send you the money.

Yours respectfully
Chas. Batchelder

P.S. Let me know by Gable & Batchelder Paris.

Anglo American

Bryanna Wooster Street Newyork.
order twenty one hundred John Munroe
eight Wall feet other six my name
Batchelor-

Bankers Wm Orde & Thos Jenkins

Jan. 30th 1882

M. Charpentier 29 Rue de la Chaussée d'Antin
Paris

Monsieur J'ai l'avantage de vous remettre ci inclus les factures que j'ai payées et qui doivent être passées au compte de la Société Industrielle et Commerciale Edison Savoie :

Rath	Fr 93.85
Frezier	3310.00
	Fr 3343.85

Agréez Monsieur mes civilités empressées.

Ch. Batchelier

Jan. 30th 1882.

Monsieur Chas Porges.
2 Rue de la Chaussée d'Antin
Paris.

Monsieur

J'ai l'avantage de vous remettre ci-inclus les factures que j'ai payées et qui doivent être passées au compte de la Société Electrique Edison,

		Fr.
Savoie	Flach.	42.00
	Mueller	100.00
	Force	47.45
	Flach.	50.00
	Cable.	54.95
Adorner & Santel Copenhagen		500.00
Telegram to same.		9.70
Cable London.		4.60
Porter		144.05
Money Adorner & Hessing Co.		1000.00
		Fr. 2123.75

Agréez Monsieur mes civilités empressées

Chas Porges

132
273

Paris 31st Janvier 1882.

S. Bergman Esq
100 Wooster Street New York.

My dear Bergman,

I confirm cable 25th as follows:—
"Can cable you money for 30 at 70" —
I received your cable in answer to this saying you had mailed 24 and would get other six — so I sent you the following:— "Draw twenty one hundred John Munroe eight hall put other six any name" — I await now the shares. I would suggest that you send me your cable address for matters of business, as well as such matters; mine is "Batchelor Paris"

Very respectfully Yours.
Chas Batchelor —

111/143

Paris 31st January 1882

Major Eaton,

65 5th avenue. Newport.

My dear Major,

Your memorandums on increase of Capital Stock of E.E.L.Co to hand, also letter of 7 and 11 — I am in constant communication with Brewer and Jenness Brandon, and Thode and Knoop. all of whom I have instructed to send all bills on matters relating to Edisons patents on "power and light" to me — In this connection I should like to ask whether all the patents in the Electric R.R. must be included in this category or whether there are any exceptions —

Regarding the Powers the one in which you inserted the names of the different companies is not good as it's only one company that will own them, the other however is all right and we shall act on it —

Have my factory at last a copy of a print of which I sent you a few days ago —

Yours truly

Chas Batchelor

Paris January 31st 1882.

Thos. A. Edison Esq
65 5th Avenue New York.

My dear Edison,

I confirm my cable of 25th as follows: "No drawings of cutting moulds yet send quick both moulds if you can spare from lamp company to Hamburg I can get them in as models" I should like to know how soon I can expect these if you have to have them made ——— also cable 25th as follows:- "All lights out except few Soleil and Mazzini who continue with machines in cellar final estimates under consideration send five thousand dollars worth of Jacobs wire sockets and sundries except chandeliers & Reostatsby Antwerp also ten allotted to Hamburg" As regards the lights at the Opera House I have been told that the principal men at the Grand Opera are interested in the Mazzini and allowed them to move their machines into the cellar when we all left last December I think he has few there as I have had great difficulty in finding anybody that knew anything about it in the Opera House itself and only got the information from Mr Gye the [illegible] who said that Mr Vaucorbeil the director had [illegible] that Mazzini should stay longer — [illegible] are amongst the footlights — they are [illegible] a test in the public buildings

here of all the different syndicates here and have asked us to join, the object is to see whether any electric light can be used instead of gas in the new Hotel de Ville (Town Hall) their proposition is good if carried out properly — They furnish the power, and they buy the lamps, putting them in themselves, and they want to use it till the New Town Hall is finished about 18 months — They hire the plant for that time —

I have heard today that there are 4 cases been waiting in Hamburg four days on Steamship "Frisia" for us and we have received no advice from you about it — Please have either myself or Dutkas and Baily written to immediately anything is shipped and let us know what it is; as before I find out what this stuff is we shall have lost over a week and probably have to pay some expense — As I cabled you some days ago the factory at Jory is bought there were three men to buy it and rent it to us but the recent panic here "bust" one man and I suggested that the factory company took ⅓ and the thing was settled — We get the buildings complete and two 40 H.P. engines and 3 boilers I am hard at work now in it —

Yours - Batchelor —

Paris Feb. 1st 1882.

E. H. Johnson Esq
57 Holborn Viaduct
London

My dear Johnson,

Your telegram to hand — Am very sorry to say that I have not any lamps or sockets except what are in the Douane and I don't believe I have a hundred of each left, and they have about 20 tons of stuff packed on them — I am expecting 5000 lamps from New York to Hamburg every day — I have sold every thing out here — I will send the telephones as soon as I can get at them — Have bought the factory at Ivry and send you sketch of same — Everything now is all O.K. here, and we are going to sign statutes Friday and formally constitute the Mill companies — It is a pretty nice thing to feel, that during all this terrible excitement in money matters here, our whole total capital is paid up, and is in Rouje's bank in hard cash

Yours

Chas Batchelor

Feb. 6th 1882

Monsieur Chas Porges
27 Rue de la Chaussee d'Antin

Monsieur — J'ai l'avantage de vous remettre ci-incluses les factures qui j'ai payées et qui doivent être passées au compte de la Societe Industrielle et Commerciale Edison :—

Savoir :— Expenses	14.05
Hennis —	38.18
Hepple —	600.00
J. Martin —	110.00
	13.50
Imbert	
Frank Martin	110.00
	3.55
Telegram	
Expenses.	28.30
Larrui	175.00
Nelson	150.00
Travailleurs —	339.00
	2281.58

Agreez Monsieur Mes civilités empressées

Chas Patetelin

Feb. 6 1882

Monsieur Chas Borges —
27 Rue de la Chaussée d'Antin

Monsieur J'ai l'avantage de vous remettre ci-incluses les factures qui j'ai payées et qui doivent être passées ~~au compte de la~~ Société Electrique Edison

Savoir —

Expenses.	21.30
Hennis	611.05
Moller	100.00
Cable.	16.35
Telegram (Milan)	3.85
Sembel. —	804.75
Fcs.	1557.30

Agréez Monsieur mes cordiales impressions

Chas Batchelor

24 Rue Berlioz Paris

The Hon Geo Walker
Consul General for the United States
Rue Scribe
Paris —

My dear Sir,

I have received a notification from Mr Edison's patent solicitor in Washington that they want my testimony taken before the Consul for the Edison-Siemens-Field interference case on Electric Railways — Have you been notified from them also? If not I have the questions they wish answered and if you can appoint a time any day after tomorrow that will suit you I will come and testify — Do you want to have the questions beforehand? if so I shall send them to you

Very respectfully yours
Chas Batchelor

Feb 8th 1882

137/156

11 February 1882

Thos. A. Edison Esq 65 5th Avenue
New York.

My dear Edison,

I acknowledge receipt of your cable as follows:— "You must authorize me draw immediately on ordering for your account I promise payment and am greatly compromised by your not providing me with funds. adequate been working some time on resistances will ship in two weeks cannot have nickel moulds made here unless you guarantee importation will not initiate patents adequate will make mercury cocks in lots amid amber cents.—

In regard to the first part of this I could not understand it as we had cabled you at least 8 hours before £4000 credit but I looked up the telegram and found Bailey had made it 3 days sight I presume this was an oversight of Baileys and I sent

2

a note to him late last night asking him to have it arranged so as to cable you to draw at sight instead — We shall arrange these matters better after a little while — Your letter to Mr Porges tickles the old man so that he does not know where he stands — I have seen Consul General Walker and my testimony will cost $50 about; but for some reason they are waiting I presume they have to receive notice from your side of the Atlantic before they can take it — I think now it is not necessary for Force's as he is at St Petersburg and in about 3 weeks will go to Finland — Strasbourg plant never missed an hour since we patched it and it runs from sunset to sunrise

Yours Batchelor —

107/144

15 Feb. 1882

D. H. Brandon Esq
1 Rue Lafitte
Paris

My dear Mr Brandon,

Will you kindly make two bills of this: one with all items in except the charges to Spanish Colonies, the other for Colonies alone — I will pay the one for the Colonies and give you an order on 27 Rue de la Chaussée d'Antin (Banque Centrale de Commerce et de Industrie) for the other

Very respectfully yours
Chas Batchelor

P.S. our company here does not own the Spanish Colonies.

121/149

15 Feb. 1882.

C. H. Johnson Esq.
54 Holborn Viaduct
London

My dear Johnson,

I have just paid a bill of £120 for the extension of the Spanish patent set 16 to her colonies. Please tell me if I am right in thinking that Mr Fabri holds the rights in the Spanish colonies and that he is the man who will refund this money to me

Very respectfully yours
Chas Batchelor

133
205

17 Feb. 1882

Monsieur Charles Porges.
27 Rue de la Chaussée d'Antin
Paris

Monsieur,

M. Brandon de 1 Rue Lafitte Paris, qui se charge de beaucoup de nos. a presenté une facture de Fr 621.80 – Je lui ai demandé de presenté cette facture à M. Ch. Porges qui la payera pour la compte de la Compagnie Continentale Edison

Agréez, Monsieur, mes salutations empressées

Ch. Batchelor

144/150

Société Anonyme
Capital £1,500,000

22 Feb 1882.

D. H. Brandon, Esq.

I am sorry for set 2 Spanish as I sent a machine there by grande vitesse prepaid —
I have one lamp complete made for set 3 will that be sufficient?

Yours
Batchelor

Shall I send it immediately securely packed?
Answer here —

143
148

Societe Anonyme Fr. 1,500,000
Capital
22 Feb 1882

Major Eaton,

Mr Brandon has presented his bill to me for all expenses since the Contract was signed and I have paid same or rather had the Compagnie Continentale Edison do so — I have also paid a bill of Fr. 125 00 for expenses of extension of Spanish patent sent to the Spanish Colonies Will you kindly inform me who I shall charge this to as the Spanish Colonies are excepted in our Contracts Yours truly

Societe Anonyme Capitale F 1,500,000
22 Feb 1892

Major Eaton
65 5th Avenue
New York.

My dear Major,

Of the machines we received the following is a list:—

1 B bar machine } sent to the
1 A small size } exposition the

B bar machine was irretrievably busted — the A did excellent work at Exposition and Opera and I then sent it to Madrid as it was necessary to have a machine there to save a patent — these I dont think can be charged for.

— Then came an A machine with set screws on end of shaft; this also did good work and is now running Foyer of Scala Theatre

2

at Milan —
then 7 B machines to Opera house — these are now in Antwerp in our office and they can be charged I think to the Societe Electrique Edison —

Yours truly
Chas Batchelor

1412
2410

Lucette Anonyme Capital £7,500,00
22 Feb 1882

E.H. Johnson Esq
57 Holborn Viaduct
London

My dear Johnson,

Have you any "Bristol board lamps" and "Spiral carbon lamps" if so I wish you would deliver to Brewer and Jensen for me 6 of the former and 6 of the latter I cannot possibly make them here — Please answer at once

Yours
Batchelor

1116
1151

Ivry-sur-Seine -
Feb 24 1882

D. H. Brandon Esq
1 Rue Lafitte
Paris

My dear Sir
I send you by
Mr Acheson two of the spiral
lamps for Sec 3. securely
packed - I will also make
you some spirals and send
you

Yours truly
Chas B. Tchilch

139/176

6 March 1882

Thomas A Edison
65 Fifth Avenue
New York.

Sir

I acknowledge the following calls —

27 February —

Frank Halpin has good, faithful work but wants thirty dollars weekly travelling expenses & board while there. He has made good friends here, that we need samples latest inventions.

Also 3 March

Gradley has man wants three dollars day expenses both ways understands cutting wire, cannot fix machines drawings central dynamo go South cause delay many changes construction: cable stuffing directors hunt plants must pay for these friday shall be drawn on Chesapeake & Roside.

2.

As regards Frank Halyer the only reason why I wanted him was because Hipsh has a good deal of work to do to learn other men & I did not want to employ a man to make an off & Swann or Edison. I shall however have a room for the purpose & keep him entirely separate from the other hands of the manufactory. I have cabled you therefore to send me some of the latest specimens.

As Bradley's man cannot fix the machines for five hours some remarkably smart little fellow who would cheaply have & I shall have my hands in setting up & I want in this line I thought what I want, has no doubt we shall soon find some to select up our force, minds are all in the way for a factory as large as this in Paris & a small one in Barcelona.

Your letter of the 17th Feb. to hand enclosing bill & shipments for "Voltaic Electric"

I have turned them over to that company.

I note your code word "Consumate" meaning Ships to Hayward Perry & Frank Blair agent at

As also your information regarding the foreign houses of this house.

Have turned also the bill of Oldenbourg & Munich against Edison.

3

and will pay the same immediately.
We are progressing well with the factory but find it very difficult indeed to get machinery in a short time.
I have however secured almost all the machinery I want for three filters a day (complete). As soon as I get your drawings I shall order complete machinery for three and one large dynamo every month.
Should be glad if you would send the price of Porter's engine delivered in Sl. also in Hamburg & how soon some can be delivered.
I confirm my cable of March 9th as follows.
"Send taps for measuring cocks."

Yours truly
Chas Batchelor

le 4 Mars 1882

Monsieur H. Moreau
avocat à Paris

Mon Monsieur,

J'ai l'honneur de vous accuser réception de votre lettre 27 février. Je m'empresse de vous informer que vous devez vous adresser pour le paiement de vos honoraires à Mr. Ch. Forges, banquier à Paris, 27 rue de la Chaussée d'Antin.

Ce règlement de vos honoraires incombera je pense à la Cie continentale dont Mr. Ch. Forges est le fondateur et Président.

Agréez chez Monsieur l'expression de ma considération distinguée.

Charles Batchelor

6 March.
1882

D. H. Brandon Esq.
1 Rue Lafitte
Paris—

My dear Sir,

In a few days I shall be able to turn over to the "Compagnie Continentale Edison" everything relating to the Edison European Countries patents. They will then notify you that they will assume all payments, etc, and give you official instructions on same

Yours respectfully
Chas Batchelor

I find that you still want models for
Set 5 Italian before Apl 20!
Set 6 " " May 20 1882
2nd Austrian before May 5 1882
2nd " "
Are you making or shall I? O.B.

116/179

6 March.

Martin N. Force Esq care of Puskas & Nottbeck
4 Bznesensky 4
St Petersburg

My dear Force,

You letter of Feb 26 to hand and am glad to hear you are doing well I knew you would do so; endeavord to give such satisfaction to mr Nottbeck that you come back with honors. We have now our factory I send you one of the pictures of it — I call your attention to the fact that Edison will have paid Mr Force during February $148. this would therefore be at $5.20 Fr 247.61 this you could perhaps give me an order for on the Societe Electrique Edisine — Also do not forget the Fr 250 I sent you last October — Dont think I pick you in mentioning this but I have so many things to look after that I do dont say a word when I think of it I shall forget it

Yours Batchelor

Messrs
Dyer & Wilber,
Patent Solicitors,
65 6th Avenue,
New York.

Gentlemen,

Last Saturday the 4th March I appeared before the Pri-Consul here & gave testimony in the "Edison, Siemens, Field, railway case."

I will endeavour to get a copy of my testimony & send it to you immediately.

Mr. Mr. Force is at present in Ireland & could not possibly appear, I do not think however that his testimony is absolutely necessary, but

My testimony I think covers the points well for the circumstances were all very fresh in my memory.

I expect that my testimony will cost about

50 to 75 dollars which I shall pay & charge it upto the "Edison Electric Light Co" as directed by your H. Weber in the letter of his received a few days ago.

Yours respectfully Yours

Chas Batchelor

170
1 2

8 Mars 18

O. H. Brandon Esq
1 Rue Laffitte
Paris

My dear Sir I have no copy of Set 5 plea
mail me one — As regards 6 we have
now a plant in Milan lighting up
the Foyer of the Scala Theatre will
suffice or must we send a complete
apparatus with everything mentioned
in the patent and fit it up.?
As regards the necessary permission
from Edison about ~~[illegible]~~ the patent
not I send you two letters of R.H. Sq
the Contrôleur officiel in these cases
which will explain this matter I
Please return the same and oblig

Yours truly
Chas Batchelor

Enclosed please find letter
order for American patents
Set 1st + 2nd.

166

28 March [illegible]

Thomas A. Edison
65 Fifth Avenue New York

Sir

Messrs Jenkinson & Co of Tarrytown are very anxious to install a large dynamo for 2000 lights can you let us have a price for it?
The light in St Petersburg & Tarrytown continue to give excellent satisfaction
I wish you would please send me full drawings of the 200 light machine.
I called on you yesterday the following:
Abdomen health good he is life of business contracts will be sent do you want all patents taken in your name.
If I thought that Jaite did not write to you regularly I should have written you oftener.
There is no doubt that Jaite has done, and is now doing, all the work of the companies, and the loss of him at present would set the business back at least a year. I do not think he is satisfied, as he feels that this work is not appreciated at home, and I am afraid he will leave it altogether, if he should do so at present, it would be very disastrous. I have

great difficulties in the factory with the workmen: they are lazy, slow and very bad workmen indeed of 25 workmen hired in the morning sometimes they are all gone before night, this of course takes up a great deal of time; if I lose Jaeby hole in the other two companies I am sure we shall do nothing for the first year.

I should judge from Miller's mind that the Emperor is not quite satisfied with what is being done here but I think you will allow that our orders have been good considering the short time we have been started and the difficulties we have had to overcome. I do not think the contracts are understood over there as I had a letter from Ulster in which he says that all the French Companies are frauds and he feels compelled to let his friends who he had persuaded to put money into stock & bonds of the European Co that their stock was absolutely worthless. I think Mr Lowell might to have explained the thing better than that.

Will you tell me what is your private opinion of our arrangement in Europe.

Yours faithfully.

Chas Batchelor

180/207

28 Mars 1882

C. Hayden Esq.
Rue Laffitte
Paris

Sir

I have just received the following from Mr Edison:—

Dear Sir

I enclose papers for Continental case No 5, the corresponding English case, which has been forwarded this day, to Mr Edison is numbered 49. Mr Edison wishes you to state that your solicitor is of course at liberty to combine the cases in any respect that he may deem advisable in order to reduce the expense, for instance all the cases so far sent to me might be put into one Continental Patent in each of the several countries corresponding to the Paris convention. I also wish to call your attention to a m other articles I have sent to this time are located in my letters to you.

As experience has shown many of the Continental Patents will be attacked upon the

U. S. patents will be limited to the shortest term for which any foreign patent is hereafter granted on the same subject.
Hence the continental patents should be taken out for the full terms at the start and not for short terms with privilege of renewal and no patent should be taken with a term less than fourteen years. This is necessary to protect the U. S. company.

Yours truly
S. W. Dyer.

Herewith you will find an exact copy of his letter of the 11th March

Yours faithfully
Th. S. Sherbutte
Secretary

182
188

29 March 1882

Mr Thomas A. Edison
65 Fifth Avenue New York

Sir

Received your letter of 16th of March enclosing bills of lading of shipments made which I have turned over to Société Electric Edison.

I notice your bill for 25 Patent models for Gruvon & Jensen & these ought to have been sent to me as Gruvon & Jensen have only our Danish & Russian Patents, the bill also should read the Continental Edison as they own the Patents and not the Société Electric.

Yours respectfully
Chas Batchelor

P.S. I notice you having received "installment receipt" in favor of Rosenwald & Hilliker for stock of the "Edison Electric Light Co." —
I also note receipt of letter of Mch 16th re Bergmann's payments and Suebel's wife. If you will send me a statement of moneys paid to Mr Force from Dec 1st 1881 & all moneys paid to Suebel's wife I will collect & pr you Yours Batchelor

188

Paris-France – Mch 31st 1882

Mr. T. A. Edison Esq Dr
To Chas Batchelor

To Expenses on Co of Autographic Telegraph Exhibition at Paris in 1881

Cash to Mr Kinney	219.36	
Board paid for Mr Kinney	91.50	
Cash to boy	105.00	
Battery, shoes, brass etc	417.40	
	2811.56	
F 2811.56 at 5.20 =		$540.68

681
931

189

Thos A Edison Dr.
to Chas Batchelor
Paris —

1882			
Mch 31	To private Acct at Exposition d'Electricité :—		
	Labor and board	60,14	
	Batteries etc all sent to London.	62,53	
	at Frs 5.25 to $1	Frs 122,37	$23.88

881

~~Statement~~ Apl. 1st 1882

Mr O Bain in Ac with
Chas Baris Agent France

		Dr.	Cr.
	Balance as per Mr Jones last statement July 17 1881	499704	
Dec 1881	Cash & Lumiere Electrique	1925	
Feb 15 1882	Brandon bill (Cash)	2310	
" " "	Cash & Oldenburgh (Hunnel)	666	
Mch 10 1882	Cash & Brandon bill	2310	
Mch 31 1882	Journal Ac at Exposition	23488	
	Photographic Ac at "	54068	
	Bain Lumiere Pr testimony	5000	
		$ 889471	

1 Avril 1882

Mr. A. Edison Esq.
65 5th Avenue
New York.

My dear Edison,

I purpose making a demand on the Compagnie Continentale Edison for the reimbursement to me of all monies I spent at the Exposition over and above the 41.730 francs that I drew from the syndicate on the order of the Edison Electric Light Co of Europe — If I am successful I shall return you your draft of $3000 which I made on you some months ago — I send you enclosed two bills which I wish you would please place to my credit — One is your private expense at Exposition $234'85 the other is the Autographic Expense at same place $540.68 — Please also give me credit for $50 — paid to Ges Walter Counsel General for my testimony in the Siemens Edison R.R. case —

My account with you must be about run out. I wish you would please send me a statement of it — I enclose you a statement as I know it. Yours

Charles Batchelor

2 April

Thomas A. Edison
65 Fifth Avenue New York.

Sir

I acknowledge the receipt of cable as follows:

"Can I draw on you for Edison about 3000 Dollars Instruments by Guaranty Trust Co."

I also confirm my cable of to-day:

"Draft tomorrow."

I wish you would acknowledge the receipt of the different bills that I have lately sent to you, which have been paid bills, as I have no other copy of them, if you lose them.

Very faithfully Yours.

Chas Batchelor

31 April 82

Thomas A. Edison
65th Fifth Avenue - New York.

Sir

I confirm my cable of the 30th of March as follows:-

"Mail taps for Mercury cocks"

This is the second time I have cabled for these, the first time being March 2nd as follows:-

"Send taps for Mercury cocks"

I notice that your letters confirm all the cables but leave this of March 2nd out, I presume you did not get it.

Yours very respectfully.

Chas Batchelor

April 3rd '82

Francis A. Upton
Menlo Park
New Jersey

My dear Upton

I have received the other part of your letter of Feb. 26th that was intended for me from Johnson & note its contents; also yours of March 1st about the different Comp.ies, this letter I shall answer by a letter for itself. Also received a letter March 13th from Dyer which notified me of shipment of 4 pumps, 1 steel gauge, 2 standard nickel forms complete. I have also your letter before me of March 13th & note what you say about change of sockets.

I am very anxious to have full drawings of this new socketing machine, as until I get these I can give no definite idea as to when I can get any lamps out. As regards porcelaine plating troughs the man that undertook this work has seems to have got into hole & I shall

81

2

have to make wooden ones at first; he however is confident that they can be made, & I shall keep him working at them; & when I have succeeded, will send you what you want.

I have arranged my plating room a little different from your sketch. I have two reservoirs for the solution & only one drainage pipe for all troughs. My drainage pipe is not soldered in any place; after the solution runs out into one reservoir it is pumped up to the top reservoir by a pump made entirely of gutta-percha & porcelaine.

I confirm my cable ~~to~~ Edison ~~to~~ day as follows

"Tell Upton send corks"

This order was sent to you before in my letter written Feb 20th which must have miscarried.

I now enclose you another order for same. Rather I enclose it to Lamp Co—

Your charge of 25 dollars for model pumps, each, is not all too dear & I

3

shall be glad if they come, without any breakage.
You speak of an asphalt floor in your pump room, but I find that it would cost me more money than to lay down a floor of yellow pine 1" wide 2½ deep. My pump room is 75 ft long by 35 ft wide.
I cannot account for this price, and on investigation find the asphalt on the Paris streets costs about the same, perhaps this is one of the causes why we have to pay about twice as much to live in Paris, as in New York.
I note what you say about Hänger getting on so well, & am very glad to hear it, will you please give him my best regards.
I note what you say about shipment of Lamps to different parts of Europe of different volts, and as regards supplies for the different places we shall attend to that in good time.
I have also noticed you are sending me a mahogany plating trough complete

81

4

plumbago cover & base; also glass samples; for which, thanks.
As regards our factory here, we are having some very difficult work indeed; not only have I to start the carrip factory but also the machine shop, & all the small apparatus that goes with each plant.
Some of the difficulties you can imagine when I tell you we have no such thing as copper of real good conductivity, & no copper manufacturers who care a damn about going into the business; if you bring a new thing into the market like our house were, you can find no one here who cares to make it.
Of all the machinists that I have got & have had; I have not seen one yet, whom I could call an ordinarily good mechanic; you may imagine under these circumstances what difficulty I have in making machines to cut out fibres.
We have got a magnificent glass blowing room, in fact our whole place is exceedingly fine for our work.

5

I send you an order for Barrelloo stock again & request to be put in communication with our house in Japan, so we can have them sent direct

I notice you have taken the names off the letter paper.

Have these been taken off because the Compy is formed?

Very respectfully yours

Charles Schelo

6 April 82

Rhode & Kneer
3 Augustusstrasse Dresden

Gentlemen

I acknowledge this morning the receipt of the copies of our seven German patents.

I have this day turned over to the Cie Continental Edison 17 Rue de la Biaussiddiry (Siège Social) Paris all our correspondence between myself & yourself & desire you in future to address all communications relating to patents, receive all instructions, & forward all bills to them after this date, in all matters relating to Edison's German patents or Electric Lighting or Power, just as you have done formerly for myself.

Very respectfully yours
Chas Batchelor

6 Avril 1882.

à Messieurs les administrateurs
de la Compagnie continentale Edison

Messieurs,

J'ai envoyé aujourd'hui à MM. MM. Bagnim et Hammgrund les copies de nos sept brevets allemands, et en même temps, toutes mes correspondances avec nos agents en Allemagne, MM. MM. Rhode & Knop.

J'ai prévenu MM. Rhode & Knop que dorénavant ils devront correspondre directement avec la Cie continentale Edison, pour toutes les questions relatives aux brevets Edison en Allemagne. Je les ai informés que la Cie continentale Edison acquittera tous leurs frais & leur transmettra directement tous ordres & instructions relatives aux brevets Edison, depuis cette présente date.

Agréez, Messieurs mes salutations distinguées.

Charbatchets

6 Avril 1882

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Messieurs Bagnin & Armengaud
à la Compagnie Continentale Edison
27 rue de la Chaussée d'Antin
à Paris

Messieurs,

Ci-joint je vous remets les copies des sept brevets allemands qui ont été accordés à Mr. Edison. Trois des originaux sont déjà en possession de la Cie continentale Edison.

Nous avons en outre, depuis Novembre 1878, formé des demandes en Allemagne pour 20 autres brevets.

Je vous remets aussi toutes les correspondances sur ces brevets (communiqués) entre moi & Mrs. Chadbourne & Knapp. Je vous enverrai dans quelques jours tous les papiers que je possède relatifs à nos brevets en Europe.

Je m'empresse de vous remettre aujourd'hui ceux ci, parce que les sommes en jeu sont très importantes que vous les engagez pour commencer les négociations pendantes avec l'Allemagne.

Agréez Messieurs mes salutations distinguées

Charbatcher

6 Avril 1882

Messieurs Hagenin & Armengaud
à la Compagnie Continentale Edison
27 rue de la Chaussée d'Antin
à Paris

Messieurs,

Ci-joint je vous remets les copies des sept brevets allemands qui ont été accordés à M. Edison. Quoi des originaux sont déjà en possession de la Compagnie Belge.

Nous avons en outre, depuis Novembre 1878, formé des demandes en Allemagne pour de autres brevets.

Je vous remets aussi toute la correspondance sur ces brevets allemands, entre moi & Mr. E. Rhodes & Knop. Je vous enverrai dans quelques jours tous les papiers que je possède relatifs à nos brevets en Europe.

Je m'empresse de vous remettre aujourd'hui ceux ci, parce que je sais qu'il est très important que vous les ayez pour suivre les négociations pendantes en Allemagne.

Agréez Messieurs mes salutations distinguées

Charles Batchelor

1884
2/27

7 April 82

D. H. Brandon Esq
1 Rue Laffitte Paris

Sir

Enclosed please find list of Edisons annuities for 1882 which please present to the Continental Edison. Please enclose your other bill in which you have again changed the extension of Spanish Patents to the colonies.

Please make separate bill for this and to me.

I have given order for the Austrian Letters Patent No 3. No. 38286 to be sent to you from the Cie Continental Edison.

Mr Farley who is now in Milan has sent me word that the Patent laws require that a meter should be sent there to satisfy the working of a Patent before the 1st of this month, I have therefore ordered a man with a meter to go from London direct with one complete to show its working

I shall be ordered by telegraph as
soon as the time I will let you know

Very faithfully yours
Chas Batchelor

200
231

200/231

9 Avril 92

L'Continental Edison.
33 Avenue de l'Opéra.

Monsieur

Mr Grandon m'a demandé de lui remettre les lettres brevets d'invention N° 38986 Serie 3 date Mai 1890. Ayez la bonté de lui les envoyer pour règlement des prochaines annuités.

Recevez Monsieur
Mes salutations empressées.

Chevalier

210/217

1 April 12

Thomas A Edison
65 Fifth Avenue New York.

Sir

Drafts On April 3rd the Pacific Mills Lawrence Mass sent you a draft for 3000 dollars, please place this to their credit, I acknowledge receipt of it to them.

Also keep their account separate from any other, their account will include everything that is manufactured in making for the manufactory and also the instruments needs rubber corks etc that are being sent from the factory to us

Lamps I have had an enormous amount of trouble with these 3 machines you have sent to Hamburg, one of these machines are still burning in Hamburg, the other two that went to Russia, the agent swears he never will say a word.

I have endeavoured to arrange to our people that we can use them when we put in more than 60 lights but they are very peculiar

2.

people in, and if they get a thing that is not what they ordered it is difficult to take them into having it. If I had been allowed to bring them into Canada I could have used them in the lamp factory

Exhibition Tubing. As you will remember I sent all the tubing that I had at the exhibition over to Ottawa.

The cost of that Exhibition was so much greater than the money that you received for it that I did not feel justified in turning that tubing over to the company. I should suppose that the tubing was sent there by the Electric Tube Co. for the exhibition and did not come out of the money supplied by the Syndicate.

If this meets your views, write me so and I shall say (if you ask me about it) just what I have written.

The Patents. As I called you the other day our people are very much afraid of the

3

[illegible] of the [illegible] machine also the
200 light machine, they understood
from Clerkson when in London
that the 200 light machine had
1000 dollars but when they asked
to have said $1000.
I wish you could have [illegible]
the reason why the large machine
is [illegible] at $2000

Yours respectfully
[illegible]

Martin Force arrived here day before
yesterday and will have one or both at
[illegible] speed [illegible].

148
261

11 April.

Major Eaton,

65 5th Avenue
Minneapolis.

My dear Major,

Thanks for your very kind little book, and for the bulletin which just set — As soon as Mr Bailey comes back from Milan I will have him put the Norman charge ~~put~~ through. I had idea that Mr Norman had not been paid as he seemed to feel perfectly satisfied. I told him that Mr Angus would pay it. It is not necessary for him now to approach as there is a committee to attend to all of which Bailey is the principal mover & spirit and he may be who knows about the services Mr Norman has rendered, & will let you know further on.

Yours faithfully

Chas Roberts

169
279

11 April 1882

J. F. Bailey Esq
45 Via Stella Milan —

My dear Mr Bailey —

I acknowledge the following telegram from you :— "Send immediately complete for working patents must be shown and certified before twenty fourth present month April first last day." —
I also confirm my telegram to you of Apl 9th as follows, "Will have London triple and belt."
Mr Jesse as you know is one of Edison's young men who has been specially working up the belt question; and as it is now far more perfect than a gas meter (having only a variation of 1 per cent) he has been sent to London & Edison and interest men see its use. He will also (after he is through in London) come to me for a short time. I took advantage of this being done & sent him immediately to you: we will be more complete for I know if we underlook it & ship it it may very likely arrive too late —

Yours
Chas. Batchelor

(I will finish this tomorrow) it is mail time —

2/6
2H8

11 April 1882

J. F. Bailey Esq.
45 Via Stella Milan Italy

My dear Mr Bailey,

I am sorry you were not here the last few days, as you could probably have helped me a little — At one of our meetings I heard that Puskas and Bailey had been paid all their expenses as expenses on Exposition. I thought this was a good time to put my bill in for payments over the amount received from the syndicate and spoke to Puskas about it after the meeting; he thought it could be got through — I accordingly made up my statement and put my bills together which showed a disbursement of Fr 52,998.60 whilst I only received from the syndicate Fr 41,336.50 — I asked Mr Rau (as he is with you on the Continentale) if he thought I could get this, and he said he would speak to Lion about it, but to my astonishment he brought it up at the first meeting, and (it seemed to be all cut and dried) Pongio talked it down immediately, by saying that they had already paid to Puskas and Bailey all the

2

expenses of the exposition, and the only way they could do was to advance the money and take it out of the first money coming to the Edison Electric Light Co of Europe if that Company so decided. I thought from the way it was done that it was put up before; and I don't think I shall act third for any thing again in a hurry.—

Bureau You know Mr Lowry engaged when here Mr Bureau, and I also after Mr Lowry left had some advice from him; his bill for services amounts to F.1000. He wrote to me some time ago asking where he should present the bill and I told him to Mr Sorgis who was the President, but he wrote Mr Lowry saying he could not do that as Mr Sorgis could not be aware of the services he had rendered — Mr Lowry turns this over to Eaton and Eaton turns it over to me and I have written him that you are the principal man that is running the Continentale and after your return from your Italy you will see to it.— Well yes?

Private A short time ago just before you left I received a cable enquiring after your health

3

and asking why you had not transmitted the signed contracts — I have now an explanation of that, and I find that it is your friend Dr Moses who has given the people over there the idea that you are entirely too sick to ever attend to business again, and that Muskat never did do any cable in return has however dispelled the idea as immediately afterwards you had a cable allowing your commission, if it has not however my letter to Edison of about the same date certainly will

I have had a long talk with Angie last Sunday and I told him that I should bring over another man from the States for manufacturing and that I should spend at least half of my time in the office. I have telegraphed for him — I am going to take charge of the experiment at Anders myself letting Fodor do it — Also I take charge of the Cuseil municipal installation but making Sey do it — I also send Flad to Anvers to help Fodor and by that

4

mean I hope to complete the education of these three men by these few instructions. What do you think of it? —

I have changed my address & at present 58 Rue d'Auteuil Auteuil Paris —

Hope you will make a good thing out and that the trouble is out of the machine

I am
Your faithfully
[illegible]

P.S. Just one the information about these three that it is confidential —
[illegible]

217/241

13 April 82

Mr. Thomas A. Edison
65 Fifth Avenue. New York.

Sir

Drawings. I acknowledge the receipt of drawings for a "wire cutter" a "lamp heater" a "Jockit machine" and a "lamp dryer"

Mercury taps. I acknowledge receipt by mail of three "mercury cocks taps" and one "mercury cock"

Martin Force. Martin Force leaves here on Saturday for New York.

I have frequently asked you for a statement of what money you have paid to his wife since the 15th of November 81.

I have received from him before he went to Russia 126 Dollars which I now send you cheque for, and as he is coming himself, he will be able to settle the rest.

This 126 dollars (as I understand it) will refund the money that you have paid his wife up to the end of January; for February, March, & April, he will owe you by the time he arrives.

As regards the payment of his passage back; our people would not pay it, as they thought it

was expense enough to bring him back from Russia, and have to send another man there.

Sudels Money. Send me word what money you have advanced to Sudels wife at different times so that I can take steps to secure it for you.

Yours Faithfully
Chas Batchelor

P.S. I have paid today for you $120 to D.H. Brandon for the extension of the Spanish patents Lets 24 and 25 to the Colonies — Am I doing right in paying these bills Brandon presents? and is he authorized to go ahead and get out just what he likes or are you giving him instructions?
C.B.

1811/256.

13 April 8.

D. H. Brandon Esq.
1 Rue Laffitte Paris

Sir

Enclosed please find my cheque for your bill of extension to the Spanish colonies of sets 24 + 25, please receipt the same + return to me.

As regards bill of 973.fcs 60 be kind enough to make this bill to the Cie Continentale Edison who are the owners of these patents and not the Sté Ind.le Edison, and present the same to them "33 Avenue de l'Opéra".

I must ask you also now to make all communications (relative to Edison's patents on Electric Light + Force in all the countries under your charge with the exception of the Spanish colonies) to this "Cie Continental Edison", to wit: you will present all bills + from whom you will receive all instructions in future.

I turn over to day all matters relating to these patents + request you to ask of them all that you desire to have at present from me.

I think it would be well to send yourself in communication with them immediately

Very respectfully yours
Chas Bachelor

13 April 82

Mess. Brewer & Jensen.
33 Chancery Lane
London

Gentlemen

I turn over today to the "Cie Continentale Edison" all matters relating to Edison's patents on "Electric Light and Force" in Denmark & Russia which have been under my charge up till now; and desire you in future to make all communications relative thereto, present all bills in connection with these patents, and receive all orders relative to them from this Company.

Please put yourself in communication with them immediately at the following address. Cie Continentale Edison
33 Avenue de l'Opéra
Paris

Please also send them the 2 Russian patents —

Yours respectfully,

Chas Batchelor

The Edison Electric Light Co. Europe (Limited)
New York

Gentlemen,

I have this day turned over to the Co. Continental Edison at Paris all the papers and patents relative to the Edison patents on "Electric Light & Force" in the countries covered by the Compagnie Continentale Edison which were in my possession & which have been under my charge.

I have also instructed Mess. Thode & Knoop of Dresden, Mr. D. H. Brandon of Paris, and Mess. Brown & Jensen of London to communicate with them immediately and to receive all instructions relative to these patents in future from this Compagnie.

Please advise Mr. Lowell of this change also.

Very faithfully yours
Chas Batchelor

13 April 1882

209
232

13 Avril 82

Cie Continentale Edison
33 Avenue de l'Opéra. Paris.

Messieurs.

Veuillez s.v.p. me donner rendez-vous avec Messieurs Hagmann et Armangaud de façon que je puisse leur remettre tous les papiers relatifs aux brevets.

J'ai écris aujourd'hui à Mr Brandon Rue Laffitte qui s'occupe des brevets de France des colonies, Belgique, Italie, Espagne, et Autriche de se mettre en communication avec vous pour recevoir à l'avenir vos instructions.

J'ai aussi écrit à Mes Breuer & Fenton à Londres qui s'occupe des brevets de Danemarck et Russie et les avisé de vous écrire de même et de recevoir à l'avenir toutes les instructions.

Recevez Messieurs
Mes salutations empressées
Chas Batchelor

13 Avril 1882.

Cie Continentale Edison.
33 Avenue de l'Opéra. Paris.

Messieurs.

Par Poste je vous envoie les suivants brevets espagnols d'Edison.

Espagnols	—	N° 920	—	Série 5
"	—	" 1534	—	" 21
"	—	" 477	—	" 2
Autrichien	—	—	—	32
"	—	" 2180		" 26
"	—	" 2188	—	" 25
"	—	" 64	—	" 28
"	—	" 149	—	" 22
"	—	" 35275	—	" 5
"	—	" 37158	—	" 2

qui m'ont été envoyés en Pleusieurs fois.

Je vous envoie aussi un livre dans lequel j'ai copié toutes les instructions relatives aux brevets ou applications des brevets Edison en Europe lesquels brevets dont je deviendrons les votres

Je vous envoie aussi la correspondance

de Mr. Brandon, Brewer, London et autres que j'ai reçu relativement à ces brevets.

Ci-inclus vous trouverez la liste faite par Brandon des annuités à payer pour nos brevets et vous voudrez bien vous en occuper immédiatement et lui envoyer un chèque pour solder.

Recevez Messieurs
les salutations empressées

Chas Batchelor

15 Avril 89

Compagnie Continentale Edison
Avenue de l'Opéra Paris

Messieurs,

Ci inclus vous trouverez les pouvoirs en l'une de Mr Brandon avec sa lettre explicative pour breveter les inventions de Mr Edison Series 33. 34. 35. 36. 37 en Belgique, France, Autriche, et Espagne.

Les causes que au reçu d'Amérique vers le milieu de Mars, j'ai remis à Mr Brandon les documents des séries dont il s'occupe et lui ai demandé de m'en remettre copie dans le but de les envoyer à Mes Elwood à Vienne de Reade et Mes Brewer à Londres et Bordeaux.

Vous trouverez aussi le dessin No 37 de la Cie Continentale Edison et la lettre que j'ai reçu de Mr Dyer.

Vous remarquerez dans sa lettre qu'il dit ainsi que nos agents en Europe le conseillent nécessaire que ces brevets doivent être combinés ensemble pour faire un plus petit nombre.

J'ai écrit Mr Dyer de New York qui s'occupe des brevets d'Edison (changeant) d'adresser à l'avenir toutes ~~les brevets d'Edison~~ les communications à la Cie Continentale Edison

Je vous envoie encore quelques lettres de Brandon et je vous prie de faire attention à la date 12 Avril pour laquelle il demande les modèles des pièces 687.

Veuillez aussi informer Mr. le Haut Commissaire de rendre les deux machines dynamos qui ont servies chez Mr. le Haut Commissaire et aussitôt qu'il en aurons prêté.

Veuillez bien écrire à Mr. le Haut Commissaire de leur remercier de nous avoir prêté ces machines.

Recevez Monsieur
Mes salutations empressées.

Ch. Gatchet

19 Avenue

[illegible]
Boulevard Haussman Paris

My dear Sir

Your letter of the 10th of April received.

I must apologise for not answering it before.

As regards the Lever patents I feel to see as yet, that he has got anything that is practically more valuable than the methods for transmitting power contained in Edison's patents.

The transmission of power by electricity for long distances over small wires is nothing new to us, for Mr Hilson & Connelson & Mr Siemens both carried it out about three years ago, that very large amounts of power could be transmitted over long distances with very small wires by using a high electro-motive force.

Mr Dubois has made statements to

2

mysel[f] that he had discovered something new which he should be very glad to show me. I have made two engagements with him during the Exhibition at the Palais de l'Industrie, both of these times he declined to show me his discoveries practically applied.

Each time he has excused himself saying that he would give me another engagement.

What I did see at the Palais de l'Industrie, we did practically at least as the winter of 80-81, when we ran at Chapelle Port Lands motors as high as 5 and 6 horse power, running machines, pumps and other devices, generating and distributing 50 horse power over an area of a mile and a quarter long by half a mile wide, and this with great economy. Ever since this time we have driven our lamp factory, which takes 14 horse power with electrical power derived from half a mile away, which is transmitted to it over a wire less larger than an ordinary telegraph wire.

What Mr Lumiere did at the Exhibition i

3

simply adds clay to this.
Every modern electrician knows that it is indeed possible to convey large amounts of power over small wires electrically, but Mr Dykes must show a large amount of power actually being transferred before he can expect such men to take for something practical his exceedingly theoretical article in the Science Electrique of a few months ago.

Very respectfully Yours
Chas Batchelor

225/2112

19 Apr 1882

My dear Edison,

Please give me some information on the 250 light machine as I have no less than 10 to make for France and I cannot tell anything about it —

Does it run by 2 belts or by belt at all?
What is speed and size of pulleys?
Give me something for God's sake!!!

Yours
"Barchelor"

20 Août 82

Monsieur le Vicomte
Pereire.
33 Rue de l'Opéra Paris.

Monsieur

Messieurs Bailey & Rau m'ont demandé de télégraphier à Mr Edison pour lui demander si il voulait accepter une commande pour 4 grands dynamos au prix de 10.500 dollars chaque et 8 dynamos de 250 lumières au prix de 1350 dollars chaque.

J'ai reçu d'Edison un télégramme par lequel il me répond qu'il acceptera la commande.

Hier soir j'ai envoyé un télégramme à Mr Bailey lui disant la réponse de Mr Edison et je lui ai ~~[illegible]~~ devais commander

Voici la réponse de ce matin.

Yes order machines Bailey
Pay la peine d'envoyer le télégramme suivant.
Edison New York.
Take eight ambuscade and four large order by mail.

et ecrire une lettre confirmant ce télégramme, aussi incluant une de ces commandes imprimées sur laquelle sera ecrit le suivant :-

"Please make us eight dynamos of 250 A light capacity at 1350 dollars each and four dynamos of 1200 A light capacity with steam engine included at 10500 dollars each."

Faites le signer le vous prie comme d'habitude et envoyer la a Mr Edison et Mr McGrua on aviera par lettre dès que ce sera fait.

Recevez Monsieur
Mes Salutations empressées
[illegible]

246/251

April 20/82

Thomas A Edison Esq
65 – fifth Avenue
New York

Dear Sir

I have ordered the "Société Electrique" to send you the following cable, and follow it up with an order by mail:—

"Make eight ambuscade and your large order by mail"

which I suppose you will duly get.

I acknowlege receipt of cable this morning as follows:—

"Mailed bills showing balance basket bandy against adjourn please remit will accept order large and ambuscades dynamos Cunningham sails St Germain"

I have sent word to the Banque to cable you $1500 as there are more things that I want—

Yours Respectfully
Charles Batchelor

219
249

20 April 82

Joshua Bailey Esq
Frankfort Ky. Germany.

Dear Sir

What do you think can be done about the Horcaut matter that I spoke to you about.

You remember the Deign magnet coil — I well I believe the new Dehrer people are trying to take that up but I have misdoubted now that it is only our system which could give it a fair trial by making one of our large machines with coil on that principle.

I ought to know whether this is a good thing as I firmly believe it will save a great deal of copper for us if we use it on the big machine.

Will you talk with Lanz about it when you get home.

I should want to have a machine made to make the spiral with, and perhaps someone could be induced to put the money into this for a small interest in it.

Yours faithfully
Chas Bastelli

248/359

p. 249

20 April 13

J. Bailey Esq.
Frankfort Ky.

Sir

I acknowledge the following telegram in answer to mine of last night.

Yes order machines Bailey I have instructed the Mr. Electrique to make the order by cable & confirm the same by letter.

Yours faithfully.
[illegible signature]

247/254

22 Apl 1882.

Thos A Edison Esq.
65 5th Ave.
New York

My dear Edison,

I acknowledge receipt of 40 more resistance boxes and 80 plugs from Bergman and Co.

Yours truly

Chas Batchelor

Also just received 1954 lb. No 17 Copper wire

C 13

215/265

26 April 82

Major Eaton Esq

My dear Major

I am sorry from your letter of April 12th that I do not understand the condition of the arrangements between the European Electric Light Co and the Paris companies

The European Electric Light Co sent over to the Exhibition machines and material for 60 sets of system of electric lighting, and the people here have expected that they have furnished the money for all the machinery and everything else there.

They have taken all the material that we had, but I have excepted the street tubing which I sent to Orange, telling them that that was only on exhibition & the tube works & did not come out of any money that they furnished.

I also say now that it is only equitable the European Electric Light Co should be paid for the 3 dynamos & lamps sent to the Opera House here —

2

I have frequently asked in my letters to have bills sent for those things as the longer we have it the harder it will be to get it paid.

Of course I have never had any instructions regarding the turning over of the material from the Exhibition to the Company here and have simply let them take it.

I do not understand what you mean by the following in your letter:

"My own advice is that you ought to pay for them, that is to say for all those the 9 machines"

The only machines that I had at the Exhibition were,

The machine that went to Havre,

the one that went to Nantes.

and the Bar machine.

Those our people think they have a right to, as having paid for, but as regards the 3 machines & lamps sent to the Opera House you ought to bill to the Company.

You gave me when I came away

3

an order to draw on the syndicate for what money I should need to meet the expenses of the Exhibition

I drew on them to the amount of £1.730 £1 50 after which they informed me that there was no more to be drawn of accounts of the "Edison Electric Light Co of Europe"

The electric light expenses at the exhibition ran up to £2.7081 £1 60 which is £1068 £1 10 more than I received from them.

At one of the meetings of the Company I have as his them to refund this money to me, saying that it was only equitable that I should be paid this, as it was spent for the benefit of these brothers.

After some deliberation they refused to pay it in the following manner:- they said it was the "Edison Electric Light Co of Europe" who should pay this expense & if the "Edison Electric Light of Europe" ordered them to pay it to me, they would do so and charge it to the account of the Edison Electric Light Co of Europe, reimbursing

themselves from the first profits accruing to that Company.

I am sorry that I have not had more definite instructions regarding this material before but it may not be too late to reclaim something, if as I suppose the money received by you from the Syndicate was not sufficient to pay for all the material.

I would respectfully recall your attention to the fact that I have asked in three or four of my letters to have a bill sent for the machine screws.

This certainly ought to be paid for but nobody seems to ask for it.

The bill for this I can pay at once as we are using the screws in the factory, and as Chalons material, I have no one to consult as regards its payment.

Yours very respectfully
J. C. Ballantine
Treasurer

261/268

2 Apl 1882

Major Eaton 65 5th Avenue
New York.

My dear Major,

I have just put up a 1000 plant of 45 A and 40 B lamps in this sugar refinery (Raffinerie Anversoise) of Gits Segers and Co. of Antwerp; the largest of its kind in Belgium — It is giving great satisfaction and in consequence the firm have another fabrique of theirs for manufacturing animal charcoal (noir animaux) installed; this will take about 300 lights — The present installation runs from 6 at night to 6 in morning

Yours truly
Chas Batchelor

1 May 1872.

Chas E Roeap Esq
104 Gouck Street
New York.

My dear Roeap,

Thanks for your letter and statement of accounts — this was made up to Jan 1st and I should think with Johnson's and my orders the firm ought to make money this year — I shall be very glad to have another from you say June or July if not too much trouble

Yours very truly
Chas Batchelor

0/337

1 May 1882

Col Gouraud 6 Lombard Street
London

My dear Col.

A cable from Edison informs me that he has instructed you to pay me my share of Oriental telephone whenever it may be available — Can you give me any idea how much it is, and when it will be available —

Yours truly
Chas Batchelor

265/337

May 1st 1882.

Major Eaton
65 5th Avenue
New York

My dear Major I went off to Antwerp without signing your letter of the 26th. You must know - ever consider it as signed by me as my clerk thought it important and sent it without.

Your letter of Apl 14th reminds me that I have been forgetful - I should be the last one to think the bulletin does no good and will try and give you a few items every week

Yours very truly
Chas Batchelor

253/287

14 Avril 1882

Messieurs les Administrateurs
de la Société Electrique Edison
à Paris

Messieurs,

Je suis de retour d'Anvers, où une dépêche de Mr. Fodor m'avait appelé.

A mon arrivée à Anvers, je me suis rendu à la raffinerie Gebr. Segers & Cie, la plus importante usine de la Belgique, ayant une installation de 65 lampes A, mais dont M. Fodor n'avait pas bien pu faire fonctionner la dynamo.

J'y suis arrivé Vendredi à 1 h. du matin, & comme on travaille jour & nuit à l'usine, j'ai commencé par faire fonctionner l'installation. Ayant remarqué que les fils étaient entremêlés, j'ai fait faire un nouveau circuit de 10 lampes pour la machine, & je l'ai fait fonctionner le reste de la nuit.

En même temps, je commençai à apprendre aux trois hommes, MM. Fodor, Flack & Pratt, le système de l'installation, & à 5 heures de l'après-midi suivant nous avions les fils débrouillés, & alimentant 55 A lampes toute la nuit de Vendredi.

1er. Mai

2.

Mr. Gift, le propriétaire de l'usine est enthousiasmé de la lumière électrique et dit qu'il fera éclairer immédiatement un autre établissement (fabrique de noir animal) pour lequel il faudra environ 500 lampes.

Cette expérience sera fort pour MM. Fodor, Flach & Pratt, l'occasion de devenir trois bons électriciens.

J'ai recommandé à Mr. Fodor de compléter l'installation avec beaucoup de soins et la raffinerie payera toutes les dépenses si l'installation continue à bien fonctionner.

Depuis mon retour, j'ai reçu de Mr. Fodor une dépêche ainsi conçue:

« Perfect success, many important visitors to-night. Armature cool — Fodor.

Agréez Cassieus, mes salutations distinguées

Chas Batchelor

Ci-inclus les deux télégrammes de Mr. Fodor.

2314
434

1er Mai 1882

Messieurs les administrateurs
de la Compie Continentale Edison
à Paris

Messieurs,

Pendant mon voyage à Anvers, j'ai eu l'occasion d'aller voir la grande machine que vous y avez en Douane.

J'ai été informé qu'elle ne pourrait pas y rester au delà du 15 mai, et qu'à cette date, les droits devraient être payés.

J'ai appris en même temps que les frais de magasinage étaient à peu près de 0f 20 par mois et par 100 Kgs avec 15 % en plus pour ce qui est dénommé "Frais d'entrepôt" ("Dock charges").

Agréez Messieurs mes salutations distinguées

Charles Bulotet

255/280

7 May 82

Samuel Insull Esq.
65 Fifth Avenue. New York

My dear Insull.

Telephone royalties

As regards the telephone royalties spoken of in your letter of the 10th, I beg you to tell Edison that I here acknowledge receipt of £445-7-0 United telephone b/s (Reversionary trust) and also £855.5.0 from the Oriental telephone (interest). I acknowledge your letter of the 20th giving me credit for small amounts total £89.6.7.

Also. Your letter of the 21st about the Doctor is very amusing: apparently I am not the only one who considers him impracticable.

W.M. (Dr. Moses)

He however is decidedly wrong in thinking that I, influenced the Russian companies against him, I could have got him a very good position with our companies but everybody that he had anything to do with considered him such an infernal bore that he actually cut the position out of his own hands, or as one or two expressed themselves to me, "they did not wish to be worried to death" with him!

7 May 82

I am very glad you sent me copy letter to Johnson of April 21st

I have not however got the photo-graphes you spoke of there.

I am very sorry to hear that Mr Edison is so unwell.

I wish you would send me at once the prices of all the material that Kreuli makes as well as meters and other things, as I expect to start a couple of central stations outside of France, and shall give order for almost all the material from over there.

Yours faithfully.

Chas Batchelor

277
286

18 May 82.

Thomas A. Edison
New York.

Sir
Enclosed please find a bill of lading by Red Star line for the "Electric Clock" & Meca Condenser. These we had lost track of since the Exhibition & have just turned up in the Antwerp Custom House.

Yours truly
Chas Batchelor

278/294

15 May 88

Samuel Insull Esq.
65 Fifth Avenue.

My dear Insull.

Yours of the 26th to hand. Thanks for the 400 dollars therein stated, with which my account has been debited.

Also let me thank you for attending to that matter of the Swiftich shares, Bailey's stock.

We received today the bond of arrangement mentioned in your letter of the 29th of April.

I think this wire ought to be packed a little better, that is put a little more paper round it as two of the reels, the paper was entirely rubbed off, and the insulation also on the sides. and eggs

I have also received Edison's bill against Vedel for 569 dollars & have forwarded the same to him in Berlin with a request to communicate upon it.

18 May 82

Tell Edison I thank him for the 2500 dollars on English Light mentioned in yours of May 1st. As regards the Bucyrus bonds I think you had better send them here.

These I shall sell again, as I do not think there will ever be a time when they cannot pay their interest.

Yours Sincerely
[illegible]

281/300

May 22 1882

D. H. Brandon Esq.
1 Rue Lafitte
Paris

My dear Sir,
Enclosed please find Fr 230 check in payment of Stern and Bylleslyi case —
Please do not address letters intended for me to Compagnie Continentale Edison I do not wish my private affairs read over by two or three persons before I get them —
Since I turned over the patent matters to them I have nothing whatever to do with the payment of their bills
Yours truly
Chas Batchelor

282/285

22 May 1882.

Thos. A. Edison Esq
New York.

My dear Edison,

In accordance with the request of Mr Dyer I have this day paid D. H. Brandon $46 expenses in the Stern and Bylleby case of "Lighting cars by Electricity"

Yours truly

Chas Batchelor

#269/258

26 May 1882

Societe Electrique Edison
33 Ave de l'Opera
Paris

Gentlemen –

My expenses to Saarguemines this week were Fr 175.21 which you can pay me or credit me with on your books

Very respectfully Yours
Chas Batchelor

286/295

May 29th 1882.

Thos A Edison Esq Newyork.

My Cables

I confirm my cables as follows:—

May 13. "Where are rocket screws"—

May 18 "Have lamp screws and caps where are rocket screws."

May 19. "Porges strongly objects Bailey and I will vote it through meeting before next Saturday"

Your Cables

I acknowledge your cables as follows:—

May 18. "Shipment 5000 caps 5000 screws advised letter April 18 price Rs 2 Conductor $2.25 per foot two and half $1.85 three 80¢ Wiesi mailed full details require immediately $5000 account big dynamos. $4500 June first and fifteenth July first and fifteenth

2.

balance early in August get Lee. Elec Edison authorize Wallenstein make these payments will get along with less if possible see letter april 20."

May 19 " Screws from Bergmann shipped Amerique 26 april "

May 23. " Lube works Frenchman asks $125 per month make offer years engagement "

May 29. " Mailed accounts balance against Societe Ind. et Comml. Edison $2500 "

Money sent As regards the money advanced and also the orders given you must never be surprised if we dont quite come up to your time as I can assure you

3

that all orders given and money advanced are strenuously objected to by our friend Porges they are after much difficulty talked into him — As regards the particular payment requested in your cable of 18th we have arranged that you can draw £10,000 and of course by that time you will have turned us something in and we shall let you keep that much ahead — We have sent you an order again for 10 200 light dynamos. and you have telegraphed that you will deliver in three weeks some — I do wish you would keep me posted in such small matters as no of revolutions size of pulleys & any thing new like

250 lb
Dynamos.

4

this for it is very embarrassing to have to acknowledge that he really knows nothing about it especially when you have said that you had some almost ready to deliver — I have places to put them all over Europe and could have had the shaftings put up ready but for this ——

Patents: I received your letter on patents and will answer it more fully in a few days at present I want to know (a question I have asked once before from Eaton without answer) how does this company stand in regard to the patents in Electric Railway —— You say that you particularly request to pay yourself for all Railroad

5

patents that Dyer may order taken out — Please notify Dyer to send all those to me and I will pay the same myself for you — I notice that Set 12 which relates to R.R. has only been taken out in France — Do you want it taken out in other countries? I think there is a large field for it in some countries in fact I have a man who wants to build a line of about 2 miles and have 12 horses work carting wood to his mills, the stationary dynamos being run by turbines — I have no doubt this man would take out the patents and do everything for Russia — Under any consideration he wants to make one himself Yours Batch

Secure the Chase as Secretary of Treasury and I can get a few minutes here occasionally to write.

289/301

5th June 1882.

Thomas A. Edison Esq.
65. Fifth Avenue.

My dear Edison.

Please cut off a piece of copper from all the different sizes & shapes that you use in the big machine, the 1st light machine and any other machine that you make and send them to me as samples.

I will also impress on your mind the necessity of my drawings being completed for the long & medium & the smallest sheet on other drawings completed please send me the first machine. Means there will be no changes for I will take one a long while to get patterns made, as the 1st light machine

I see that you have shipped Johnson three of them, so do not fail immediately to supply me with those drawings. I know really nothing about this machine except that it is 3 L dynamos together. but as to what speed or how driven & general dimensions I know really nothing. You cannot give me too much information here.

I have sold to - 250 light machines here to one man and to day I cannot give him the information that will let him put up his countershafts.

Truly yours.

Chas Batchelor

70

June 6 1882.

Chas Cline Esq
Sec.y Panama Canal
New York.

My dear Sir

Last Dec 24th I sent you a check for $117.20 in payment of my third payment of 5 Shares of Canal Stock — At the same time I asked for an acknowledgement of same — I have never received this — Will you please do so to Chas Batchelor Menlo Park N.J. or to my address here

Very respectfully Yours
Chas Batchelor
Société Edison
Ivry sur Seine
near Paris

285/302

Omaha & Ohio

17 June 1882.

Brandon Esq.
Rue Laffitte.

Dear Sir.

Enclosed please find a check for 240 francs in payment of your account for extension of Edison's Spanish patents to the Colonies set 23. 26, 28 & 29.

Yours truly,
Chas Batchelor

223/329

16 June 1882.

Francis R. Upton.
Y of the Edison Lamp Co
Harrison - New Jersey.

My dear Upton.

I am very sorry to see from your letter of May 31st that I have hurt your feelings by putting things too strong in my letters. I did not intend to do so as I believe you are doing all in your power to push my things forward.

Yours truly.
Chas Batchelor

300
3/13

17 June 1882

D. H. Brandon Esq
Paris.

My dear Sir,

Have just returned from Austria and find your letter & bill for Fr. 240 extension of Spanish patents.

In regard to this I have just received a letter from Edison saying as follows:-
"As to the payment made by Brandon on Spanish Colonial patents I presume he must have received some instructions from Serrell If so he should apply to Serrell for payment and not to you"
From this I should consider that you ought to apply to Serrell for payment of these Spanish Colonial patents — Will you please do so I have written to Mr Serrell on the point

Very respectfully yours
Chas Batchelor

116

17th June 1882.

L. W. Serrell Esq
Nassau Street New York.

Dear Sir.

I have paid Brandon occasionally bills for extension of Spanish patents to the colonies & he has now presented me with another bill for extension of set 23, 26, 28 & 29. For payment of this I have referred him to you as I received a letter from Edison dated May 3rd in which occurs the following sentence [redacted] to the payment made by Brandon for Spanish colonial patents I presume he must have received some instructions from Serrell if so he should apply to Serrell for payment & not to you & I have therefore referred him to you.

Very respectfully yours.
Chas Batchelor

299
~~365~~
339

19 June 1882.

My dear Susie,

Your letter of June 4 received and the contents carefully noted. I am glad to see that there is a likelihood that the Lamp Co will be formed also the Machine Works — I shall send you some large orders for lamps for the other part of Europe as I and a little of the opinion myself as regards these Frenchmen if we can have it in their hands. —

Now as regards the Stock — Can you sell the shares you have of mine? If so sell (10) thirty at 850 dollars; ~~buy~~ and get a letter or two as to remuneration yourself for trouble but I want to net $850 each. If you cannot do this let me know and I will arrange it —

You know my being here costs an enormous amount and I have to spend three times what I get here from these people — So I should like to get a little money which I can put at interest in order not to always [illegible] my hand off. If it was not for that [illegible] of the [illegible] in Europe I should be very pretty hard [illegible]

(Will write again)

[illegible]

June 28th 1882.

Chas Forges Esq
Paris –

My dear Sir,

I have examined carefully the paper (inclosed) which you have submitted to me through Mr Clamond; and find that it consists of a rather severe criticism of the accumulators of Faure and Plante – The paper says that the accumulator of Mr H. amends all these difficulties in an admirable manner but it fails to say in what manner the difficulties are obviated. – The paper also says that the new accumulator rivals in economy steam engines of 1–10 horse power; this certainly does not speak well of the accumulator, as every engineer knows that there is no such thing as economy in a steam engine of 1 to 10 horse power, such engines always burning from four to six times as much coal to develop each horse power as engines of large capacity, besides taking the same amount of attention. I think it would be well for this party to

FAURÉ, PLANTÉ
L.B. Burt 5/10/1979

2

Show in what manner he overcomes the defects in the other accumulators; and above all to prove that he has made an improvement which can be made a commercial success.

I have yet to learn that the Faure accumulators are earning money by supplying light and power in competition with other systems now supplying these necessaries

I think also it is not enough to have simply a better thing but it must be a very much better thing than Faures to be anything more than a stock operation.

I should like to get a test on some of his batteries if it were possible

Very respectfully Yours
Wm Batchelor

295/311

June 26 1882

My dear Edison,

Your numerous cables on details of machines & hand relieving our minds greatly; you cannot give us too much of this information — Your letter on factory also & hand and Contents digested —

I am sorry there should have been so much trouble about the payments on the large dynamos. These people are very different to Americans or even Englishmen and it is necessary to work them in their own way — I find it a little difficult to get their full confidence until we have something to show them here. If I could have put up a couple of machines here like Johnson did in London there would have been no difficulty — We are getting up some good plants in Europe but we have not a single installation in France and shall not have until I make it here.

As regards the advances made of $5000 and $9000 they took it understood that these payments are to be applied on the first two large dynamos and only them. When you want an advance

2

on the second L. You must make a special demand for it and I should advise you to make that demand immediately in order that these two machines may be commenced and we shall not have to wait for them

Forward all 2 dynamos and 287 lights you offer for immediately they are provided — There will be no work trouble like this if we can get a really good installation up somewhere — I suppose you are worked to death just now — I would give a great deal to be at the opening of the New York station — My job here is no fool of a job what with lamps, dynamos, chandeliers, and all the rest; I am just in up to my neck; then I have no hand outside work of such a responsible nature and involving so much money, that I wear a hat about three sizes larger than when I left New York —

Yours &c
Bachelor

16 July 1882

Mr Ross. Vienna.—

My dear Sir,

My experiments so far tell me that we want for:—

140 lamps in circuit		6 ohms
100	" " "	9 ohms
60	" " "	14 "
38	" " "	22½ "
20	" " "	44 "
10	" " "	86 "
5	" " "	170 "
1	" " "	858 "

These resistances bring the lamp almost to a black and leave only 100 foot lbs in each lamp (or $\frac{1}{330}$ of a horse power)

I shall be able to tell you the size and kind of wire for each in a few days

I think it will be copper on the first few and german silver on the others but some may want carbon—

Yours very truly

Chas Batchelor

313
316
341

10 July 1882

D. H. Brandon Esq, 1 Rue Lafette
Paris

My dear Sir.

Enclosed please find blue prints, specifications, and power of attorney of a case on Railways — Please take this out as a communication from Mr Edison immediately and in France — Please apply to me for the necessary payments in this case — Dyer says the corresponding English case was forwarded from New York June 12 1882.

Yours very truly
Chas Batchelor

311/334

25 July 1882.

My dear Edison,

Brandon notifies me that Serrel says he has nothing further to do with Edison's foreign patents after Sept 92 and he notifies me that of course he shall extend none of the Spanish patents to the Colonies unless he receives some further instructions.

Yours

Batchelor

298/360

29 July 1882

Societe Electrique Edison
33 Av de l'Opera
Paris

Gentlemen,

According to instructions given in Mr Bailey's letter of this day, calling my attention to the fact that the Brünn theatre is now 290 metres from the place of supply in place of 230 as before and also to the letter of Mr Seidel of the 27 July which was enclosed I have this day cabled Mr Edison as follows:-

"Change conductor seven to five and two to ~~one and half for~~ nine ~~hundred~~ sixty five feet one and half both wanted badly when can deliver send drawings K L and E"

In regard to these changes in conductors after a price is made I cannot possibly see how it is expected to make money off a job where the change is always against us. for instance our first estimate was made for 470 lamps it was afterwards

2

altered when I was there to at most 860 lamps at 230 metres; now it is 815 lamps at 290 metres which adds to the estimate I made in conductors alone $6509. Such items as these are not to be despised and will tend to eat up our profit when added after the annual remuneration is fixed —
I have written Geo Ross about this change in price —
I shall be at the office at 10 A.M. tomorrow Sunday morning
Very respectfully Yours
Chas Barnhart

280
382

July 29th 1882.

My dear Seubel.

I answer yours as they come I must begin at the June 26th 1882.

Safety Catches As regards safety catches I have notified de Mosenthal to write you on the subject after looking over our applications that are uses in process and also those that have been granted he will do so in a few days. ——

Automatic Regulator } I have never seen this regulator yet although I have ordered a dozen a long time ago which have not yet arrived — If they had I should have sent you one — The principle it works on is this ÷ The current passes through a strong magnet of small resistance which pulls a lever over a switchboard putting in resistance in the magnet a spring takes it back —

Munich Exhibition } Waterproofer. I think it advisable not to use

2.

the water wheel they intend to put at our disposition as it runs so slow, then again it is two wheels and not one, making a very complicated transmission. You can do what you like of course and I will help you all in my power but my time is so occupied that I told Herr I could not take it on me — Of course you know it is 2.5 Kilometres the size of the wire necessary and the 3 or 4 transmissions necessary and the two machines to give us probably 40 lamps I deemed not a very desirable show to make — If we made a machine of high E.M.F. it might be better but our machines are for a particular purpose and we are not in a condition to do such work — I think you will have your hands full without it —

Theatre lighting

Of course I mean stage lighting as the other part is easy enough — When I was there at Munich I objected to anybody else laying wires if he did but they insisted on allowing anyone else to put up

3

wires and expected two other people to do so: that if they put their lamps alongside of ours and lay their wires alongside so that one system could be used one night and the other on another night — I am afraid there is sure to be trouble with so many wires when so many are moveable lamps. —
If you decide to light it however you must have a number of resistances made like the ones we are going to make at Brünn through Mr Ross — I have been calculating the wires for these and can give you the results but I am afraid I cannot make them as I am so entirely occupied —
If possible get a permit to go behind the scenes at a good theatre at Berlin and watch the operation of the stage lights there — I have spent two nights in the imperial opera at Vienna and many nights in the theatres in Paris studying the operations — I find it very easy to make the resistances in order to be made cheap

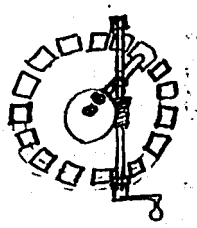
must be made of two or three sizes of wire and part of copper part of german silver and sometimes of Carbon.

If our people have not sent you the plan I shall see that they do. immediately —

Regulation

Now for the regulation :— A man must be able to regulate the intensity at will of the Auditorium
the footlights
the cross lights
the side lights
the orchestra
the transportable objects
all together or separately. — All the cross-lights and side lights of which there are generally six of each separately or together and it must be possible to raise or lower them very gradually — We make for the Prince theatre a switch for each that turns like a gas switch and put the resistances in another room and run wires to the regulators.

5



Now we want

1	Switch for Auditorium =	1
1	" " foot lights =	1
1	" " each chasle light = say	5
1	" " each side light say 3 each side	6
1	" " transportable object	1
		14

You would want at least 14 you see and they would have to be made to suit the number of lights but the switches must be all the same and like rough sketch —
A theatre also wants red and blue lights which we provide at Brünn by each lamps which we can turn on and off at will I will send you a diagram of the installation when I can

Cable for Conductors } I have today cabled Edison to change your order for No 4 to No 5 and asked for time of delivery —

Street lighting } I think the 10 candle lights would be good for streets and I will see tomorrow at the office if Société has ordered any

Yours truly
Chas Batchelor

1 August 1888.

Waterhouse & Winterbotham
London —

Gentlemen,

I believe no reports were made to Edison from the stereoscope Co. on capturing the time when the £300 was paid — If I remember right the royalty was to be paid on the sale of machines which it was supposed many thousands would be sold in a year — But we found ourselves most frightfully taken in as the Company simply made a few machines to exhibit at the principal places drawing as there undoubtedly a large revenue therefrom but only paying us from the manufacture of said machine — When I was in London last I saw advertised an exhibition of Edison phonograph which was being shown in a small store in Oxford street — I suppose they must derive a profit from such exhibition yet we never received any except for the first machine manufactured

6 per head

Yours very truly

Chas Batchelor

Sry. 23 Aug. 1882.
Frances R. Elyton Esq
Harrison N.J.

My dear Elyton,

I find this difference in standard candles

6 tests of one hour each — wicks cleaned in all the same — this variation will give a difference of 3 per cent

1 — 120.66 grains
2 — 132.23 "
3 — 123.44 "
4 — 134.02
5 — 123.44
6 — 132.24
6 | 769.03
128.17 average of 6

Do you have this difficulty?

Yours
Batchelor

S8/376

26 Aug 1882.

Chas L. Clarke Esq
New York

My dear Clarke,

I am much obliged to you for your letter on batteries I shall take advantage of it immediately —
In testing lamps I am using now a set of Deprez galvanometers on which I put mirrors — Last year Mr Rowland spoke considerably against this instrument as being very inaccurate but I was sure it would do for us and I am finding it extremely practical. The spot of light comes instantly to rest & the instruments ~~need not be used~~ does not need standardizing (at least as far as we have used it about 4 weeks) of course I test everything now with both Deprez galvanometer & Thompson mirror to make sure —
We have set out upon a fine point after our volts vary from 95 to 105 I think this however is unjustifiable inspection in future

Yours
Chas Batchelor

268/316

27 August 1882

Major Eaton.
65 5th Avenue
New York

My dear Major,

Enclosed please find certificate No 620 for 50 shares in the Edison Electric Light Company of Europe (Limited) — May I ask you to change this into 8 certificates of five each and 10 certificates of one each all in the name of Chas Batchelor — By doing so and forwarding to me you will very much oblige me. Thanking you in advance for the trouble you take

Believe me Yours truly
Chas Batchelor

1 Enclosure
"Via registered

319/364

28 Aug 1887.

My dear Isabel

I have telephoned 33 Ave de l'Opera on receiving your letter and find that all the wire you want is 30 Kilos No 12 — I accordingly send this tonight from my own stock (which is not so good) as I get for outside (which I am just out of) I send along 12 simple appliques with shade holders which they asked me for —

Your cable from New York will certainly be shipped this week if not already shipped — 8 Regulators in two days — N. I will see you about a 2 days — I find we have to send you 60 Kilos instead of 30 as the only coil is that size and I cannot split it

Yours Batchelor

316
3140

Sept 26. 1882.

My dear Mr Edison,

In answer to your letter of the 13th. I must say that the cooperation of Dr Moses which I expected I certainly did not get. He left me to do all the work during the day and only occasionally came round at night. In the formation of a company after the closing of the Exposition Nov 15th he certainly rendered no services whatever. I was intimately connected with the negotiations as one of your representatives and if he had helped them at all I certainly should have known it. In fact I saw him only once between the closing of the Exposition and the signing of our contract. He then asked me to help him to get an agency for Germany in the Company he had heard we were about forming. I spoke favorably of him to Mr Porges who granted him two or three interviews, the results of which were that Dr Moses's terms were entirely too exorbitant to be entertained for a minute and Mr Porges requested that an answer to that effect should be sent to the Dr to prevent him from being bothered for 2 or 3 hours of the best part of his time every day

Very truly Yours Chas Batchelor

203
4/15

Ekroside Newyork:-
Shall I give English people information manufacture lamps.

5 Rue du Parc 26 Sept 1881.

335

Lonestar Newyork:
Theatrelighting Munich
grand success Batchelor—

5 Rue du parc 27 Sept 1882.

336

267

3 Oct 1882

Col Gouraud.

6 Lombard Street
London -

My dear Colonel,

If you desire it, in lieu of the option you have on my shares of Oriental Telephone shares and which runs till the 18th of the present month, I will sell to you the whole 2850 at 15 shillings each, cash on delivery

Very respectfully yours
Chas Bateson

C
4341/2

3 Oct 1882.

Arnold White Esq
The Edison Electric Light Co Limd
London.

My dear White,

In answer to your letter of Sept 20 I must say that it is very much against our rules to do what you want, but if you will get the consent of Edison I will give you all drawings, information, models etc. etc. etc (of course at your expense) that you may require for the manufacture of lamps.

Very respectfully yours
Chas Batchelor

304
342

3 October 1882.

Samuel Insull

Menlo Park N.J.

My dear Insull,

I acknowledge receipt of your cables on Stock sent some time ago — Also received to day :- "Edison, Johnson offered Gourand oriental telephone fifteen shillings cash do likewise"

I have done as this morning as anything we get out of that is dead profit — Everything in Stocks seems to be very dull here not a thing doing at all

Yours

Batchelor

334
348

Oct 3 1882

Mr A Edison
Menlo Park

My dear Edison,

I acknowledge your cable of today: "Don't tell London company anything about lamp manufacture"

Yours "Batch"

339/362

12 Oct 1882

My dear Susie,

Many thanks for your letter — It eases my mind a little to see that my assessments over there are being met — From your letter I should think the prospects good for both Lamp Co and Godch. It works — Am glad I am in a little (indirectly) at Bergman Co; of course it will make money! — Anything of that kind that B & J. do is is bound to make money and I'll take my chance every time —

We are getting along here nicely now, only glass bothering us at factory and three enquiries for C dynamos. but I tell you I have had a good time on it!!

I am getting some tests on my lamps for life now and shall be able to give you the results shortly —

I think there is now every likelihood of C

2

Central Station at Paris – We are working like the devil for it and before long we shall have the right for laying the wires in the streets for two kilometers square in the heart of Paris – I have selected the place and figured out numerable plants from 10000 lights up to 40000 on it, and I dont hesitate to say that at this part I can get a 7 hours average burning for each light – I dont suppose you can do it any where else in the world than here –

I expect hourly now to have word that our engines are finished at Brienne when I shall leave to start the theatre there –

I have ordered the Galvanometers and will send them on as soon as possible; also the Berthoud Borel Cable Co. shall have my immediate attention as regards Edisons request. –

Armington has been here and from his talk I see he wants us to pay a royalty for making his engines – He said he had seen

3

Bailey in New York and I therefore told him that we would not do anything about it until he arrived — I telegraphed Edison too and of course you know you advised 8 per cent on his selling price there — We will settle the matter as soon as Bailey comes and he returns from Berlin —

Seubel's account. When I go to Brünn I shall call at Munich and see Seubel and get this settled —

Do you think it at all likely that Fabri will take up the option on the shares of European that he has from Edison and what is the term of option?

Yours truly

Chas Batchelor

348
3 5 2

17 Oct 1882

My dear Edison

Enclosed please find receipted bill of Brandon for extension of Sets 24 and 25 (Spanish) & colonies as I notified you in my letter of 13 Apl. last.

Also Brandon's receipt by letter for £230 which I paid him for patent of Stern and Bylesby ordered taken by Dyer.

I also enclose:

1 Receipt of deposit of French patent Set 26
2 Brandon receipted bill for same £32/0/25
3 Brandon's explanation of the items in said bill these all relate to patent "Improvt in electrical railways and tramways and in cars therefor"

Please give me personally credit for the amounts they carry

Very truly yours

Chas Batchelor

5 enclosures
letter registered

349
426

25 Oct 1882 –

Messrs Bailey and Rau
Adm^r Société Electrique Edison
Paris —

Gentlemen,

If you will allow me, I would like to suggest the following:–

1st The business of the Company is constantly increasing

2nd Its technical management is very poor owing to my time being so occupied with making the material, and solving the more difficult problems of Central Station work, etc

3 The tardiness of the Gare St Lazare and Bon Marché installations shows that it wants (badly) better management. The installations at Post and Telegraph shows that we want an Engineer at the helm who can give all his time to this business and who can plainly

2

tell people the conditions under which we can give satisfaction, and that it is impossible to do so when their engine runs our machine at a speed varying from 1033 turns to 1325 –

4 Our Engineers at present are good for putting up installations but all their work should be directed by a superintendent who is responsible to the Company

5 I think the Company will agree with me that I should not be expected to do this mere routine work, when there are things of so much greater importance in hand and which occupy my whole time

In a word I believe that we must have a good practical superintendent who is responsible for all the installations put up

Very truly yours

Chas Batchelor

25 Oct 1882

My dear Edison I have just received the following from Mather and Platt of Manchester

"Chas Batchelor Esq

Dear Sir Will you be good enough to quote us a price for complete armatures for the Edison dynamos for 60 and 200 lights, also kindly say how soon you could deliver 2 of each size We intended to order same from New York but having seen your most complete and well organized works we feel certain you can serve us in this matter We are yours truly

Mather and Platt

To which I answered: —

Messrs. M. & P. At present I am not in a position to supply you with the armatures you desire as our people here are taking them as fast as we can make them — I have as yet only made E, Z, and Ks and have not finished any of the Is, Rs and Cs — I believe Edison can furnish you immediately with all you want and I will cable him if you desire Yours Chas Batchelor —

0/377

28 Octobre
1882.

Mr J. J. Shipsey
11 Delahay St.
Westminster
London. SW.

Dear Sir,

When I gave you permission to experiment here on the Inoolite, if you remember, I said that it would be better for you to get your own men to help you. I find however from Mr Cunningham that you had work done by our men and you asked him to have the Bill sent to the Company for it. – I did not wish to have such a transaction as a Bill between the Company and Mr White, as I allowed the privilege of experimenting here on personal friendship; – believing also, that if the Inoolite was made here, we could have used it in our Manufactory for some purposes. Therefore I have paid myself the items of labour and material made here, which amount to £40 – This you can send me, any time you have leisure, but as you see, I cannot have a Bill sent to Mr White for it.

Yours faithfully
[illegible]

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3 61

27 Oct 1882.

T. A. Edison Esq.
65 Fifth Avenue
New York.

Dear Sir,

Enclosed please find page from 'La Nature' on the "Thermo Chimique Electro Generateur" — I was struck with it as being direct production of Electricity by Combustion — I know Dr Beard and I have requested a test of his briquets.
He kindly lent me 2, which I burnt and got a current of about 1 Ampère from each. There was a variation in resistance, but they were made by hand, of course cannot be considered good. I asked him to give me 2 for you. He has done so, and I will forward them to you.

I do not send this thing as being in any way cheap or to compare with other methods of producing Electricity but you know better than I, that the direct production of Electricity by Combustion is as much as we ever hope to get. The Doctor has no patents in America but is about taking them. I have engagement with him to talk over the matter of an interest in his patents in America. It looks very small at present, but six months of our experimenting might show it a much better thing.

Yours very truly
Chas Batchelor

337
368

28th October
1882.

Major Eaton
65 Fifth Avenue
New York

Dear Sir,

Letter of Oct. 7th duly received - I shall be glad to do anything I possibly can for you. I received also from Mr Bailey your letter of instructions enclosing six forms of release, but not enclosing three letters spoken of by you for Mr Sorgo -

Mr Bailey also has not been able to find them amongst his papers, and thinks they have probably been left in your Bureau - I shall wait till I get these letters either from him or from you, before doing anything in the matter.

Our installation at the Brüm Theatre is now complete and I leave for there to night to commence its working. I shall write you immediately it is started -

Mr Sorgo informed me yesterday that we have received from the "Conseil Municipal" of Paris the right to lay underground wires in the streets in the best part of the City of Paris, and occupying a territory of 2 Kilometres square -

This is a great thing for us, and I do not doubt that we shall very shortly commence a Central

Station in this section of the City.
I do not hesitate to say, than we can get in this ~~[illegible]~~ section 40000 lights, of which from 1/2 to 3/4 ~~[illegible]~~ an average burning time of of 7 hours per night

I am Dear Sir,
Yours very truly
Chas Batchelor

P.S.
On my return from Europe, I will send you a letter on our progress at the factory.
C.B.

~~3H 353~~
371

22 Nov
1882.

T. A. Edison Esq.
New York.

My dear Edison,

A short time ago Mr Turutini was here, and in an interview with Mr Borgeo he informed that gentlemen that he bought his lamps for 35 cents from Edison - Is this so? - because Mr Borgeo naturally thinks that if you can affard to let Mr Turutini have them for 35.c, you can sell them to him for the same money.

As I don't believe such is the case, I shall be glad if you will write me, giving me the price of lamps sold to Switzerland,

Yours truly
Chas Batchelor

3X42
421

22 Nov.
1882.

Mr Sam.l Insull.
65 Fifth Avenue.
New York.

Dear Insull,

I duly received your blue print of base of Armington and Simms' Engine as applied to C. Dynamo, with thanks; - also your acknowledgment of sum paid to Brandon, of 31st October.

I should be much obliged to you if you would kindly send me every alteration and change that you know of on the C Dynamo, with Armington and Simms' Engine attached.

You can easily understand that I am in a hell of a state of mind, with machines on my hands that cost in the neighbourhood 40,000 francs each, which cannot possibly be finished under 3 or 4 months, and knowing all the time that you are making continual alterations in this machine in New York -

22 Nov.
1882.

The 3 screw machines you sent are safely to hand, and I must congratulate you upon the choice you have made.
As regards the payment for monthly shipment of glass, I will take care that you receive cheques regularly.

Yours truly
Chas Batchelor

332
377

22 Nov.
1882.

My dear Sembel,

I was much surprised to see when I was in Berlin, that you had written Rathenau to the effect that I said the E. machine wasn't worth a damn. The conversation between us amounted to this: that we should endeavour as much as possible to render it more practical. It certainly was never understood that you should be able to say that the machine was no good.

The E. machine, manufactured here, runs perfectly at 2,200 revolutions without heating of bearings and with very little sparking.

I continue to hear very excellent results from the Brünn plant, and think we have made a very good thing there.

You will recollect that we talking about the money advanced by Edison to Mr. Sembel. I have hunted up his letter, and the items are as follows:

22 Nov 1882.

Sept 21.	Pd. Wm Seubel.	$ 60. 00.
Oct 1	" " "	30. 00
Nov 10	" "	30 . . .
Dec 12	" "	30 "
Jany 20	" "	30 "
Feby 28	" "	30 "
Mch 2	" "	30. "
" 17.	Passage. Wm Seubel Children	127. 50.
Mch 16.	Share of Calla bonds.	1. 50.
		$ 369. 00.

As I would like to clear this matter off my hands, would you give me some idea how you propose to pay this, so that I may inform Edison — Will send you copy of Central Station estimate as soon as it is copied

Yours truly

Chas Batchelor

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451

22 Nov
1882.

22 Nov.
1882.

Fred: R. Upton Esq.
Edison Lamp Works.
Harrison N. Jersey.

My dear Sir,
Thanks for letter on prices for material, on which I will write you further. I am anxious at present to have prices of those Carbon moulds, if there is nothing about them patented –
As regards lamps for Europe, you may rest assured that I shall send you yet many orders for them – Our business here is increasing so rapidly that I am not in a position, with my limited means, to supply any country outside France –
I am putting down Engine of 150 horse power and boilers for my lamp factory alone, as the Engines I bought with the Factory are not at all adequate for power required for Dynamo Factory and all the other machines that I have for Chandeliers, Sockets, wood work &c &c &c

22 Nov 1882.
60.00.
30.00
30 ..
20 –
30 .
30 –
30. .
127.50.
1.50.
$369.00.

22 Oct.

Besides, I find it extremely convenient to run my lamp factory with the same power, used for all other purposes —

Our people sent you the other day an order for 6000 lamps —

Yours truly

Chas Batchelor

356
400

22 Nov
1882.

Major Eaton 65 Fifth Avenue
New York.

My dear Sir,

I have not as yet had spare time to give you detailed account of what is doing at the Factory, but will do so, as soon as I possibly can.

However, just to show you that we are not altogether wanting in vitality, I append you a list as I just now remember them, of the number of plants running in France, the material of which of course had to be made here. Besides the installations in France (with the exception of lamps) we ship large quantities to all parts of Europe. –

I have already told you of installation of 500 lamps (2 K. Machines) at the "Bon Marché" a large dry goods store, and of 180 lamps (3 L machines) at the Gare St Lazare, – Also the installation at Perpignan (Bardou fils Paper manufactory – 1 L machine) – In addition, the following are running in first class order. —

22 Mar

(Continued)

Our own factory — K mach: 250 lamps

M. Pochet, Paris (Glassworks) large-fancy glass Mfs
1 F. Mach: 17 Lamps

Telegraph room (Ministry of Posts & Telegraphs Paris) 1 F Mach: 60 A. 20 B.

F. Dandicolle Fils & Gaudin Aîné, Bordeaux
large provision Merchants } 1 F Mach - 40 A 40 B

Chaveau, Café de la Comedie Toulouse } 1 F Mach - 40 A 40 B

Mes Larocha, Joubert & Matteau Angoulême (Engravers) 1 F mach: 60 A

Paul Schmidt & Fils (Hosiery) St. Die - Vosges. 1 F mach: 1 F " } 150 B
working by turbine - very good

M. Leec - Tannery Nancy } 1 F Machine 60 A lamps.

(Cashmeres)

Arnaut Frères - Lyonne fine jewellery ([illegible])	1 E machine 20 A, 20 B
Philippe Rozier - Chemin [illegible] Normandy Cotton spinning & weaving	1 E machine 30 A, 40 B
Motte et Meillassoux - Roubaix Cotton spinners (large)	1 E machine 50 A, 20 B
M. Lefebre - Roubaix Cotton spinner (large)	1 E machine 32 A, 56 B
Louis Jourjaniet du Lauvel. Paris Fancy goods	1 E Machine 60 A lamps.
Banque de France - Paris This is the strong [illegible] for printing bank notes	1 E machine 60 A lamps.
Lodoïs fils - Paris Dyers of feathers & mfrs dusters Mme Balchetta	1 E machine 50 A, and 20 B

361
375

Lee Nov.
1882.

T. A. Edison Esq.
65 Fifth Avenue
New York.

Dear Edison,

The contents of one of your Telegrams to the Inside Electrician, in which you spoke about the English sockets, are rather puzzling to them. They know nothing about these sockets, and although I know all about them, I have never given them any information –

I have had enquiries from the Manchester Coy and all the other Companies, asking me to manufacture for England, but have replied to all that although manufacturing largely here, our business is such that we are ourselves under the necessity of ordering heavily from America, and have advised them to do the same –

One thing I would ask you, and that is, if you can reduce the price of anything for England, let me know and also, give the benefit to the European Companies as well –

Yours
Batchelor

24 Nov.
1882.

Geo. Freemantle Esq.
Sectry. Ed. Elec Light Limited
19 Victoria Buildings
Manchester.

Dear Sir,

I am not at present in a position to quote you prices for lamps from the factory. We are doing such a large business in Europe that we take from America, 3000, or 4000 lamps per week, more than I can supply. I think you should be able to arrange with the London Company to have all your lamps forwarded to you direct from New York.

Very truly Yours
Chas Batchelor

375 3/5
380

Nov. 27th 1882.

My dear Edison,

We have now got very many plants ordered in France and also many out and I find myself in a predicament which I can get out of very easily with your help — The power that I had when I bought factory, we have loaded up till it has got to a point where it breaks down very often and this is very disastrous to lamp factory — I am now putting in a hundred and fifty horse Corliss double cylinder 80 rev. engine for that and for about 6 weeks I do not see how I can bridge over the difficulty as the stoppage of one ~~do~~ week is almost fatal — Now if you would send me 3000 A and 5000 B just as they come off pumps without sockets so that I could socket them here they would be same as I make now and no-one would know it — You could put them in barrels with 5 or 6 layers of lamp bulbs at-

Send me wire stating what you can do. Telegraph me if you can do this. Don't bill them as lamps either — I will bill you what I bill them for. You do it Patchin.

0/383

29 Nov. 1882.

F. Jehl Esq.
Grand Hotel.
Brünn —

29 Nov. 1882.

My dear Sir,

Enclosed I beg to hand you letter from our Patent Department, relating to formation of Fabric for Edison's patented material in Austria —

As regards the Fabric, I think you cannot do better than erect a shed on the land which we now own for the Brünn Station, and I think it will be well to send you a glass blowing apparatus, 3 doz Pump stands with mercury bottles, such as we were accustomed to use for getting the vacuum, a socketing machine, and a small photometric apparatus. —

Then as regards sockets and other small material I could send the parts for them, and you could have them put together there, by men whom you will instruct — In this manner it will be an Edison Factory

29 Nov
1882.

2/

Read over the letter of the Société Electrique and take the necessary steps immediately - I will write you further in a day or two. and in the meantime will prepare the material required.

When you get a chance well you ask them at the Crete Brumer Machine works if they could not alter ~~the~~ Engines during the first 2 months that we have a stoppage in such a manner that they can be uncoupled whilst running - Also ask them, if there is any way we can fix, so that if anything arises to the Engines during the night's performance, we can make one Engine do the work, also pull the other one round so as not to be obliged to stop even for 10 minutes -

I will see Laguéro about your matters.

Yours truly

Chas Batchelor

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384

29 Nov.
1882.

T. A. Edison Esq.
65 Fifth Avenue.
New York.

My dear Edison,

The bearer of this note, Mr. Shegiro of Japan, is a friend of mine, very intelligent, is well acquainted with Electricity, and has many other acquirements. If you can put him in the way of visiting some of our large Manufactories (of course a letter from you will enable him to enter anywhere) he will be much gratified. He is leaving very shortly for Japan and if you want anything doing out there, relating to our Bamboos, I am sure he will be happy to give his services.

Please at the same time give him the entrée to the Central Station, so that he can see the working.

Very truly yours
Chas. Batchelor

29 Nov.
1882.

Major Eaton,
65 Fifth Avenue
New York.

Dear Major,

Our plant in the Imperial Dockyards at Dantzig in Prussia, is working splendidly.

It now consists as follows:—

2 Z. Machines.
66 A. Lamps.
112 B do.

Every pair has a B lamp; every machine or lathe has 1 A. lamp, the whole furnished with tin shades, about 18 in. in diameter painted dull white inside and green outside.

Yours
[illegible]

166

1st Dec
1882.

Mr. Fader.
Chef M. Nobbeck
St Petersburg.

Dear Sir,

I am very glad to hear that your installations are working well –
Please send me the business names, the nature of the business, and the particulars of your plants in Tammerfors, Helsingfors, Okulowka, as also of any others you may know of working in Russia.

I am, Dear Sir,
Yours faithfully
Chas Batchelor

378
109

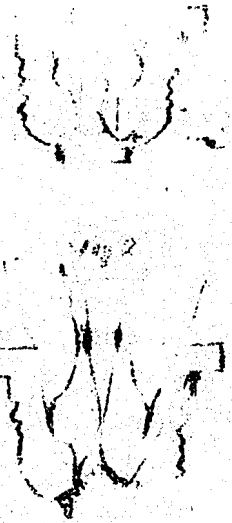
30 Nov
1882.

F. Jehl Esq.
Grand Hotel
Paris

My dear Sir,

In my communication of yesterday's date, the letter referred to from our Patent-Department was inadvertently omitted. I now beg to enclose it, and trusting it will reach you safely,

I am,
Yours very truly
Chas. Batchelor



not [illegible] or if the [illegible] [illegible] [illegible]
[illegible] is mailed
[illegible] also ask to have letter [illegible]
[illegible] through that [illegible] to Europe. [illegible]
[illegible] the plaster. I [illegible]

380
88

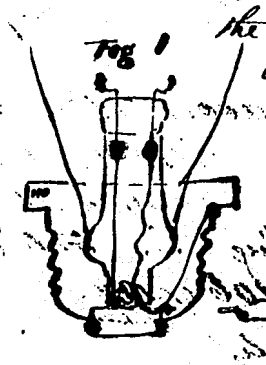
No 381

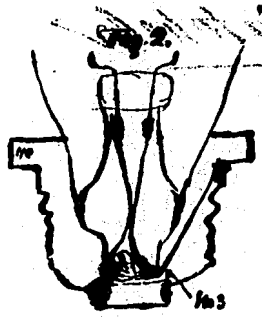
Dec 1st 1882

Mr A Edison Esq 65 5th Avenue New York

My dear Sir,

I do not know whether you have noticed that some of our lamps (I speak of those from America for I have now remedied it in mine) are actually short circuited in the plaster socket — I could not believe at first that such a thing could happen until I came across no less than three in the lamps at the Brixton theatre — I put them in my pocket for investigation as I could not understand how they could come out of your testing room marked 110 volts with a dead cross in the socket I cut them carefully to pieces after making sure of their resistance and I found No 1 crossed at X — No 2 was touching as shown though when I had cut the plaster away sufficiently to see inside they did not look as if they quite touched — No 3 touched as marked —





I would also ask to have better varnishing on the lamps that come to Europe — the moist atmosphere goes into the plaster — I notice

that you put no varnish on the bottom part of the plaster but it is very essential here. Since finding these crossed lamps I have carefully investigated those lamps which suddenly explode (a phenomenon I have never explained satisfactorily to myself) and in many cases I believe it is due to the wires being very close together, a little extra current being sent through sometime expands the wires in the shank, and as they are held tight in the seal at one end, and the plaster at the other, they move sideways and touch ——

Dampness in the Plaster will account for high volt lamps in some cases — My volts used to range up to 112 but now I keep all my lamps at about 90 Volts for 2 days before varnishing and testing and now I very seldom get one above 100 or 101.

Yours truly

Chas Sakheber

No 383

3614
439

Nov. 1882.

Mr. Philip Seubel.
57 Barerstrasse
Munich.

My dear Sir,

Your letter of November 24th is to hand - I accept the method of payment of Edison's Bill, and shall be happy to receive the monthly notes.

Whilst I was away there were 4 or 5 E. Machines finished, and they worked splendidly - all those we are sending away now, are really very good indeed, without any spark whatever. Of course I make a very flexible brush.

I am my dear Sir,
Yours very truly
Chas Batchelor

Let me know what you are doing in Munich
[illegible] C.B.

384 / 341

1st Dec 1882.

My dear Edison,

As regards the settlement of Seubel's Bill to you, I have arranged payment in the following manner:—

He will give me Cheques, dated one month apart for 250 francs each. Payable at the Société Electrique, and I will collect the money and forward it to you.

Of course Seubel acknowledges that he is by no means in a position to return the money as you were in lending it to him, but owing to the fact of his having lost one of his children, and with continued sickness in his family, he really has not the money to pay you, and can only get it by working for it.

Believe me
Yours very faithfully
[illegible]

415

No 383

2 Dec.
1882.

Mess.rs Armington & Simons,
Providence. R.I.

Gentlemen, Edison having decided that the Armington Engine does the work perfectly I telegraphed him to have you send me patterns and drawings for the 1200 light motor. I hope these can be rushed along quickly — The other sizes are also very necessary here. I have talked them up so much since your Mr. Armington was here, that I think it would not be a difficult thing to persuade people to manufacture them in France, and I believe people have expressed a desire to make them in Germany. If they were available here, I should probably use nothing else, as we are buying engines all the time, small and large. Will you tell me what arrangements can be made for manufacturing here and other parts of Europe, and whether you have settled anything in any country whatever in Europe

Yours truly Chas Batchelor

388
392
No 386

2 Dec
1882.

T. A. Edison Esq.
New York.

My dear Edison, I send you a small box to-day in which is enclosed a Deprez Galvanometer for measuring volts — Also two of Doctor Brandes briquettes — I will give you a few notes on each in a day or two,

Yours very faithfully
Chas Batchelor

391
395
394

2 Dec.
1882.

T. A. Edison Esq.
New York.

Berthoud Borel Cable.

My dear Edison, I find the Berthoud Borel people are so tied up in America with Biederm... that they cannot possibly shake him off, and the only thing that I can get them to say is, that if an offer is made to them, they will see how they can settle with Biederman -
I don't know how large an interest Biederman has in it, but I should judge he controls it entirely. One of the Administrators M. de Coulon whom I think you have seen in America told me they were heartily sick of B. and nothing would give them greater pleasure than to see a way of getting rid of him.
Now a few words about the Cable — I find that most of the Arc light people here have used the Cable and discarded it - I put it in the powder factory plant at St Chamas, and in a few weeks it was so everlastingly crossed up, and grounded that I send a man to fix it

387.

2

2 Decr.
1882.

I have talked to M. de Caulon about these defects, as I believe myself that the Cable is good, and that it only requires great care in laying.
He has sent me 200 metres to put underground for a trial at the factory, and I shall see it laid, and make a few joints in it, so as to test it good —
I will then write you further about it —

Yours truly
Chas Batchelor

No 389

5 Dec.
1882.

T. A. Edison Esq.
New York.

My dear Edison, I confirm my Cable of this morning as follows:

Edisonido - New York.

"Send thirty sheets sixteenth fibre obey. beauty"

I have used up all the 16th fibre the Agents had in London, and they give me no hope of being able to get any more. If you had not sent this by the time this letter arrives, please hurry some forward; otherwise I shall be at a stand-still.

I have already had to make the little washers and sockets, both of hard rubber and horn, through not being able to get this -

I sent you by mail 3000 dollars -

I don't know how your account stands yet. Exactly, but as soon as we have straightened

2

5 Dec.
1882.

our office matters, will send you
Cheque for the Balance -
I have just been obliged to discharge my
Bookkeeper, and the new one are going through
all the Bills, and payments since we started
They hope to have all completed in a few
days, when you will receive cheque —

Believe me,
Very truly yours
Chas Batchelor

5 Dec. 1882.

Translation of Pathet's letter.

The 2 Cases referred to, Nos 1830, 1831 were forwarded from Havre - 19th December 1881 by Steamer Mexi for Liverpool - thence by Steamer Chester to New York. - to address of Mr. J. A. Edson, 66 Fifth Avenue, New York -

If these goods are not yet in the possession of the Consignee, it is his own fault, for one of the B/L was sent to him same date, so that he could claim them on their arrival -

Nevertheless, in Case the B/L has been lost, we send you one that we have left -

You have only to forward it to Consignee, so that he can make his complaint at the Office of the "Inman Steamship Company, New York".

395
401

No 388

5 Dec.
1882.

T. A. Edison Esq.
New York.

My dear Sir, I have heard several times that Kenny has never yet received his instruments from the Paris Exhibition of 1881 — I have therefore hereof up for you the 2 Cases which contained them, and send you enclosed, letter of Messrs Parkes & Co, who shipped them with translation of same. —
At the same time, another duplicate of the B/L, with which you can claim the goods.

Believe me
Truly yours,
Chas Batchelor

3 enclosures

8 Decembre 2

Monsieur le Dr Board.
La Pochette

389

Cher Monsieur,

J'ai reçu une réponse de Mr Edison qui me me paraît malheureusement pas très disposé à entrer dans la voie que nous lui proposons. Pourtant comme il m'a écrit avant d'avoir reçu les bicquettes que vous m'avez très gracieusement offertes pour lui je voudrais attendre encore une nouvelle lettre avant de vous donner une réponse définitive.

Pourrez-vous m'indiquer les points que vous revendiquez dans vos brevets américains afin que je puisse voir quelle base nous aurions pour de nouvelles recherches. Vous m'obligerez beaucoup.

J'espère avoir de meilleures nouvelles à vous annoncer la prochaine fois et vous prie en attendant de croire à mes sentiments les plus distingués.

Chas Batchelor

368
405
No 390

11 Dec.
1882.

Major Eaton, 65 Fifth Avenue
New York.

Dear Major,

I am very much obliged to you for your Directors' report of the state of the Isolated Electric Light Co. The outlook certainly appears to be very Encouraging.

I will endeavour shortly to furnish you a similar list of all our isolated plants at present working in Europe.

I have received your letters to Mr Parger directing him to hand me the founders' shares I shall commence immediately to carry out your instructions in that respect

Believe me
Very truly yours
Max Batchelor

398
398

12 Dec 1882

Thos A Edison Esq 65 5th Avenue
New York

My dear Edison, I have now in my possession

Electric Railway Patent

Letters patent (Set 38 French) for "Improvements on Electric railways and tramways and cars therefor" This corresponds to Continental Case 38 sent me by Dyer June 12th 1882 and which he instructed me to take out for France alone — I shall send this on there if you wish it —

Autographic Telegraph Patent

When the Company took all our patents out of the hands of Mr Brandon they of course had no interest in Patent of Edison & Blinney (Set 22 I think) so I told him that he must look to New York for instructions on it — There is no hurry about it as it only has to be worked Nov 3 1883 but I thought I would remind you of it

Very truly Yours

Chas Batchelor

394

12 Oct. 1882.

M. Meyet, 45 Rue Richelieu
Paris.

Mon cher Monsieur, J'ai des instructions de "The Edison Electric Light Co of Europe Limited of New York" pour recevoir de M. Forges toutes les actions de fondateurs de la "Compagnie Continentale Edison" — la "Société Electrique Edison" et la "Société Industrielle et Commerciale Edison" —

Également instructions pour la distribution de quelques-unes dans Paris, et en recevoir des reçus —

Je voudrais bien avoir votre avis à ce sujet ainsi que les papiers nécessaires préparés pour que je puisse remplir la mission qui m'est confiée, — Pourriez vous m'accorder une entrevue demain, et à quelle heure? —

Agréez Monsieur
Mes salutations Empressées
Chas Batchelor

395 15 Dec. 1882

Major Caton 65 5th Avenue
New York.

My dear Major.

Brunn Theatre. It is entirely a mistake that we had any failure at the Brunne theatre the first night — The actual facts are these: About a week before the opening night was settled they asked us if we should be ready and as all we had to do was to put up and connect the 'stage regulator' we of course said yes. At this time we had every night the whole house lit up, about 750 lamps in all — After the an order was given allowing the actors the use of the stage until the opening night thus depriving us of the right to make any noise at all — Of course we expostulating all the week and saying that we could not possibly finish to which they took no heed — When the opening night came although we had all the 850 lamps burning we could not of course use the regulators and we were obliged to tell them so — The Burgomaster was very much annoyed and told us rather impatiently that if we could

not go through the evening properly we had better go and turn off the light and not make a fool of the public — The next morning we had an interview with him and after explaining to him our difficulty he gave us a week to finish during which time we had the stage and in fact all the Theatre entirely to ourselves In a few days we had everything all right and a brilliant opening at which we were complimented from all sides on the success we had achieved — I sent you a description of the installation, also plans of the station & Photograph of the building but should judge you have not received them —

Banque de France } This installation consists of 1 Z dynam. and 36 A and 48 B lamps — It lights up the printing presses for printing bank bills also the ladies room for numbering the bills and the office of M. Hermel "directeur des Ateliers" ——

Very truly Yours.

Chas Bastelle

424

396.

15 Dec 1882

Major Eaton,
65 5th Avenue New York.

My dear Major,

Imperial Palace Vienna

I have just sent away three K machines to Vienna to run about a month in the Imperial Palace with about 600 B lamps. It is I believe the first time that the Electric Light has been admitted into the private rooms of an Imperial family where gas never was admitted — more about this afterwards.

Tammerfors

The installation that we put up in Finland at Tammerfors has now been increased to — 2 K Dynamos.
2 Z Dynamos
1 E Dynamo.
all working by water power — It is as you know at the large cotton mills of Finlayson Co & Co.

Helsingfors

Our plant here is in the large manufacturing establishment of George Ricks, the most important factory for "Tapestry and fancy papers" in Russia. The owner declared to our engineer there that "the Edison light is more like

2

sunlight than any other illuminant and for mixing colours and making a distinction of all the finest tints it cannot be approached" Plant 60 A and 1 Z dynamo — works daily 8-10 hours.

Yväskylä Russia

There! this plant is the most northerly Edison plant in the world I think — You will find the place up between the 62° and 63 degree of latitude quite near the "jumping off" place — This is a saw mill owned by Mr. Johnson he has an E machine — 110 lamps are placed but he never runs more than 15 at a time — My engineer says that the common council have declared their intention to immediately put up a central station of 500 lamps A and have commenced negotiations already. How is this for a little town of 2000 inhabitants?

Very truly yours
Chas Batchelor

397. Dec. 18th 1882.

Chas Porges Esq.
Paris —

My dear Mr Porges.

I have just received a letter from Mr Edison in which he assures me that the Furniture pays .50¢ per lamp — He also adds that it may be possible that he bought some lamps at 35¢ in 1880; but if so, it was very few indeed, and he always pays 50¢ now — They have repeatedly tried to lower the price but have never succeeded

Very truly yours
Chas Batchelor

409
416
400

19 Dec 1882

M. Chas Porges
Paris —

My dear Sir, I have now the 'orders' from the Edison Electric Light Co of Europe (Limited) asking you to deliver to me:-

8000 Parts of Founder of Compagnie Cont. Edison
3000 " " " " Societe Electrique Edison
and 3000 " " " " Societe Ind et Comm. Edison

also a letter asking me to deliver to Messrs Porges and Leon:-

800 Parts of Founder of the Compagnie Cont. Edison
750 " " " " Societe Ind. et Comm. Edison
and 500 " " " " Societe Electrique Edison

Would you be kind enough to make a rendezvous with me to deliver these to me, and if convenient also make a rendezvous with M. Leon so that we can arrange the whole matter at the same time

Very respectfully yours
Chas Batchelor —

P.S. Any time tomorrow would suit me —
C.B.

389

403

19 Dec 1882.

Messrs Armington and Simons
Providence R. I.

Gentlemen —

Of course there has not been time for a reply but I wish to say that I am being p— by parties who want me to manufacture all the smaller sizes of your engines also — These parties are anxious to put in money enough to manufacture for Europe — I would also like to ask (in case an arrangement could be made either by forming a company, or by us manufacturing under royalty, or by the sale outright of your European patents) what would be your terms in each case

Very respectfully Yours
Chas Batchelor

401
435

405

20 Dec 1882.
65 5th Avenue

Thos A Edison Esq

My dear Edison I received your and Eatons joint telegram "Have not founders shares been shipped" to which I replied immediately "No abdomen (Bailey) settlement with ablution (Leon) will be finished this week"—

This matter being settled I immediately wrote Porges for a rendezvous with himself and Leon— It is not appointed yet but I understand Mr Bailey had an interview with Porges after which Bailey told me that I must not receive the shares until he had an answer to a letter to Eaton written the 19th—

The founder's shares are all made "au porteur" or to bearer and I think Bailey fears that if they pass into my hands even though for the company, M. Porges and his friends would take advantage of the 3rd clause in article 5 of the statutes of the Compagnie Continentale.

3

this I think is altogether to cautio
for in the first place I do not believe
these people capable of such meanness a
then again I do not see how they could
prove that the Light Co had disposed of
them — I have sent a note again
asking Mr. Forges if 20% of these shar
could not be delivered to me in the
name of the Light Co and the rest "au
porteur" so that I can immediate
settle it

Very truly yours
Chas Bitchell

L102
45-02

409

27 Dec 1882.

Francis Jehl. Q

Briine

My dear Francis,

Edison has written me another letter about your article in the Electrician of Nov. 25th. If you value the friendship of Edison you must write no more articles in which you give the "why and wherefore" of our methods of doing things. His letter is very strong and shows very clearly his displeasure.

Very truly Yours

Chas Batchelor

175

410

Dec 26th 1882

Richard N. Dyer Esq Newport R.

My dear Sir, I am sorry that I have been unable to answer your of Dec 1st sooner — In 1875 or thereabouts, I remember very well helping Mr Edison make a great many experiments in sulphate of copper batteries with a view to having poles of very large surface and little weight I remember I took at that time plate of lead and covered them all over with chief marks (or frame work by chisel) which we plated with copper & used in the batteries in pairs. I remember Mr Edison also melted some lead and poured it into water to get what we called spongy lead, this we then used after plating —

The experiments on secondary batteries in 1875 are very fresh in my memory — I believe Mr Force made two of these batteries, which Mr Edison used to experiment with — I remember that I changed these plates often for Mr Edison — I scratched up in a pair, another pair I grooved all over, and another pair I hurled all up on the surface as I had done in 1875 — The first plates that were put in the first secondary batteries were long and coiled up together ~~but were separated by small pieces~~ of wood so as to prevent ~~touching~~ these were immersed together in the acidulated water ~~but the latter plates were not so large and~~ much thicker being about 7 x 4 in by about 1/4 inch thick —

I also remember making for Mr Edison several hundred secondaries back in 1875 which he used on his ~~Automatic~~ Telegraph

Very truly Yours

Chas Batchelor

407
429

411

Paris 27 Dec 1882

Major Eaton
65 5th Avenue
New York.

My dear Major,

Founders Shares

Your joint telegram with Edison received; also yours of 20th Dec. "Ship founders immediately allow nothing to prevent" I wish now to give you a little explanation why these have not been shipped. After receiving your letters to Char Porges I was asked by Bailey not to settle up matters with M. Leon until he had a settlement (with him) of some matters between them - I therefore did not present my letters to Porges, but I told him I had received them, and he led me to believe that I could get them immediately I wanted to - After Mr Bailey was ready, I presented the letters to Porges and he immediately called a "conseil d'Administration" meeting to clear himself of all responsibility; at this meeting it was decided that the founders shares must not be delivered before (at least) the fundamental patents were transferred to the Compagnie Continentale Edison - Mr Bailey is of opinion that the power given to Batchelor, Bailey, and

2

Puskas, at the time of formation of the Companies is sufficient for this, and he has today a meeting with the Lawyers to find this out – If this is true, it will take but a short time for Armengaud and I to decide which are the fundamental ones, and have them transferred – If it is not sufficient, then we shall cable for fresh ones – I am sorry I did not present the letters before but from appearances I did not think there would be the slightest objection raised

Very respectfully yours

Chas Batchelor

P.S. I shall write you again on this in the course of this week CB

350
437

412

J. R. Bailey. Esq

Dec. 30th 1882
Paris —

My dear Mr Bailey,

After much reflection I have decided that I do not feel bound to refund to Mr Lem immediately, the money he deposited for the shares standing in my name and necessary for me to sit on the boards of the Edison Companies — Mr. Lem knew at the time the companies were formed, that I had not the money necessary; and could not get it without making considerable sacrifices; so he deposited it so that I could sit there and took for security their value in Edison Electric light Co of Europe (Limited) Stock — The shares for which the money was put up, I have never seen my man being refused them when I sent him with the receipt for same; although I understand there are more than are actually necessary for me for sitting on the boards —

To raise the money now would be a still greater sacrifice than it was then

2.

and taking into consideration that I had my wings very considerably clipped in the Exhibition for the benefit of others; and that I am at present under very much heavier expense than the income I receive will cover; (or from the appearance of things will be likely to cover during the next ten years) if I am now to be pressed to make another sacrifice, I would much rather leave the field here and go where my work will tell more for my own interests — I will see Mr. Borges and explain the whole affair; perhaps he will carry them for me — this I have decided, that I will make no more sacrifices.

Yours very truly

Chas Bartlett

374
433

413

Jan 3rd 1873

Chas Henri Esq
Milan —

My dear Henri,

I enclose you my check on Drexel Morgan & Co No 14 payable to Robert B. Beecher for $48.25/100 in answer to your letter as it is difficult to get a draft for so small an amount

$48.25 at 5.20 =
$250.90

Which you can give me an order for on Société or send me a draft. Wishing you the compliments of the season

Chas Beecher

414

Jan 16 1883

Major Eaton 65 5th Avenue New York

My dear Major,

I have just returned from a week in Berlin with Mr Porges and Bailey both of whom I have left there. The result of this visit will be a contract with parties there for the Isarated business. The contract will be made with the German National Bank, and the house of Jacob Landau of Berlin and Siegfried of Frankfort. The terms were not fully agreed on when I left but there is I think no doubt of its satisfaction. The terms are roughly this – Cash payment 250.000 marks 1½ per cent charge of jouissance and a small royalty on lamps and dynamos –

Whilst in Berlin I took the opportunity to send for Mr Knoop of the firm of Thode and Knoop of Dresden so as to go over our German patents with him; and found much to my astonishment that Mr Knoop was a man who knows absolutely nothing of electricity. I found that whenever Edison put in an application at the Patent office Siemens immediately filed an objection to it and without asking my advice at any time Knoop has replied to these objections and simply taken from the office whatever they gave, deeply ignorant of the fact that in some case the essential principle has been cut out. Siemens has now seven or eight objections in against our pending patents. I gave him some points on the most prominent & which have to be replied to & which I instructed him never to reply without consultation with me.

2

Bailey is now making arrangements to have our patents in Germany arranged and put in good shape before application is made; by an employee of the Patent Office in his own time, and also he is going to engage the services of a first class expert.—

The best part of our visit will be the contract we shall have which I believe will go through — he paying us a "prime d'inventeur" (for all incandescent light plants that he manufactures or sells) per abortied horse power —

In our contract with the German company it became necessary to define what was an isolated plant and what was a central station and I give the following :—

Central Stations are establishments for manufacturing, measuring and delivering electric currents for the production of light and power on a given district to any or all inhabitants in such district who may desire so. Any installation made for supplying light or power to a single individual or several individuals and not upon the general public is an isolated plant —

A number of times I have been going to write you regarding our President Mr. Porges. Quite a number of times he has spoken to me about the want of confidence the Edison Light to had in him. He seems to feel very sore that although he has founded the 3 Edison Companies he is never allowed to have any intercourse between yourself and Edison without using Puskas and Bailey as mouthpiece. He is certainly one of the most disagreeable men it was ever my lot to be cast with but if you could send him bulletins, items of news and above all a letter to the central station it would please him greatly

Respectfully yours Chas Batchelor

428

415

Jan 16th 1883

Chas Ellis Esq Milan -

Your letter received enclosing Fr 250 and 1 Lira - As regard the people manufacturing here they have a perfect right to, and you had better show them any thing that you can - If they do not use you on the Central Station work there hang on at something until I have some which will be shortly and I can take you away

Truly yours

Chas Batchelor

U 29

417

29th January 1883

Major Eaton.
65 Fifth Avenue.
New York.

Dear Sir

Of course you know from Mr Bailey that the Compagnie Continentale Edison, at a meeting of the Board of Directors decided that it was necessary, before delivering the fourth share to me that the fundamental Patents in each country should be transferred to them. In the opinion of Mr Lucillet our Counsel, the Co was virtually in possession of the Patents and there was no need for any such transfer but the Compagnie Continentale decided that they should require that. For this purpose Mr Rau will give you, during my stay in Berlin, the necessary "formule de pouvoir" which has been prepared by Mr Meuvengaud, together with the letter of instructions to Edison relative to its signature, a copy of that letter is enclosed herewith.

Thanks for Defect-book reports, I am starting something similar and shall reciprocate.

Yours faithfully.

Chas Batchelor

417

420.

23rd January 1883.

C. A. Edison Esq.
New York

My dear Edison.

Cable transfer. Your cable of 20th inst as follows received:
"My bills against adjourn beautiful banquet Bergmann bills mailed eleventh "and twelfth but send cable transfer beauty baptist both urgently needed funds"
I am notified today by the Bank that they have called you yesterday £ 5000.

C. Dynamo. I believe I wrote you some time ago that there was considerable difference in the distance between the bedplate of the Armington engine and that of Porter. Of course my Armington drawing had no engine on it but I presumed there was one there, the shaft for the Dynamo which I have now got forged would be, I believe, about 2½" short so you see I dare not turn up the shafts, and consequently I am at a standstill on the armatures. The other part of the work for 2 of these Dynamos is well along but I cannot do much more with the. You send me a complete scale drawing of the Dynamo coupled Armington engines; I also cannot cast the bases untill I can distill this difference in shaft.
It is very important that I should have these quickly as the Société Electrique are concluding a contract for lighting the Grand Opera of

23 January 1883

2

Paris and want to of them immediately, in fact I am afraid that we shall have to give the time in the contract and, of course, for that I am perfectly at sea.

I wish you would send me an exact recipe for making the gold-plating solution for the C Dynamos in order that I can recount a bath.

Also please send us 2 of the Sturtevant blowers used for the large Dynamos and 2 of the Cylinder-slides that you use; these I will send you an official order for.

Rue de Strasburg We have just arranged to furnish a plant of 1200 lamps to this station which is just being built; it is very much spread out and we shall use a large amount of tubing, all of which material except the lamps can easily be furnished from here.

Meters. I must now commence to make meters and it would save me much trouble if you sent me a blueprint of each size you make, as it is much better that we keep that size perfectly uniform.

I shall do nothing in this matter until I have these drawings as the delay in receiving some of the Dynamo drawings occasioned a slight difference in ~~some of these~~ rule and yours which has caused me a great deal of trouble to rectify.

Bills I wish you would send to the Société Industrielle an accurate statement of everything you have delivered up to the end of year 1882, with amount of cash received, in order that we may get it straightened out

23 January 1913

in our books so that our new bookkeeper can understand it; also, in future, send bills immediately, if not before the goods have been sent, and a letter of instructions as to the contents of each package; this is very important for us as we have sometimes to open every single case in a shipment because we have not the list & numbers of the packages.

Lamp factory. Have just had a "pic-nic" with my mercury pump. I got a new oiler for the shaftings and he kindly oiled the inside of the pump for me although well instructed about it; I do not need to tell you what trouble we had.

Pump glass Our order for pump glass was for glass enough for 5000 pumps, you have only sent enough for 400 or 500; this I ought to have immediately as I cannot work with so few pumps and it is difficult to work 2 glasses at the same time. I wish you would hurry those up for me.

New material for sockets. Thanks for the samples and recipe, I will do some experimenting also on this.

Chas Batchelor

~~I Buchanan~~

426
4410 Private

421

Jan 24 1883.

J. F. Bailey Esq Kaiserhof Berlin —

Dear Sir,

Edison has a patent in America for "Safety catches" taken as you see by drawings enclosed in 1880 —

16 Series in France gives a very full description of this device on page 5 line 11-27 and claims it has it in combination with other devices Fig 12 also shows it marked 6 —

I remark here that there is no actual claim for the "safety catch" itself which is very bad, but at the same time I think that it would be only a court of law that could decide that we had no "safety catch" —

I should certainly object to Weston's or any other application for this device on this patent 16, and prevent him from getting a patent which he might use to our detriment afterwards — I should also explain the state of affairs to our patent expert (if you think proper) so that he

2

May act intelligently for us — I believe the actual claim has been omitted in our patents here and you might consult him about whether it would be possible to make a claim now for it —

Your telegram received and I think you have done well

Yours respectfully
Chas Batchelor

Devis for the two theatres go tomorrow

O B

Bailey Kaiserhof Berlin
Letter on safety last night theatre estimate
tomorrow trouble between Rau and P on
lighting opera Rau accepted P says he exceeded
his rights do you want me vote your power
answer Batchelor

Grand Rue de paix June 25 1912.

JUN 25 1912

440
446

424

27th January 1883

Mr. Bailey
Berlin

Dear Sir,

The meeting of the Committee last night passed off splendidly. It was unanimously agreed that, although Mr. Rau had overstepped his right in agreeing with the Minister for lighting the Opera, he had made a very good business and a Committee was appointed to finish it in detail subject to ratification by the Board.

The conditions are about as follows: (of course we have to be mixed up a little with Philippart and I consider a bad side of it, but it was very sure that we could have done nothing without him, nor he without us as he frankly admitted.) We take the Grand Chandelier, the stage and the musicians rooms round it, in all about 3400 lights, the price is fixed at the same rate as 30 cts. per cubic mètre for year which cannot be changed for 4 years & then can only be dropped to 18 cts. we having a right, if we wish, to take out our installation.

I made Rau a devis which gave amply sufficient for everything, in fact was very liberal, showing a profit to the Co. of 46,000 fr. per year if the Station was made for the Opera alone.

We are to light the Théatre Comique alone.

There is no doubt that if we make a Station which we must do for

9th January 1883

(Continued)

the Opera, we soon saw a wire drawn for the Eden Theatre why the Society are very much dissatisfied with their present lighting.

Yours faithfully

Chas Stanford

434
1149

425

Jan 31 1883

Major Eaton, Newport.

My dear Major,

Founders Shares. Your letter to Pusker and Bailey yesterday and immediately went with Pusker to show them to Porges. After reading them Mr. Porges took occasion to remark (and wished me to say so in any letter I might be writing to you) that it was not the particular wish (as far as he knew) of the Compagnie Continentale, that the founders shares should be locked up; and the minutes of the meetings nowhere showed that it was. He assured me that after the powers arrived and a few of the patents had been transferred (to show that the powers were good) the company would deliver them to me for shipment. As regards the Societe Electriques and Societe Industrielle founders shares, he saw no reason why they could not be sent immediately, and I expect to send you the latter by Saturday's boat and the former early next week.

Very respectfully Yours

Chas Batchelor

442

427.

Jan. 31st 1883.

M. Bailey. Kaiserhof Berlin -

My dear Mr Bailey, Just had a letter from Colombo in which he says owing to bad weather he has proceeded very slowly but in a week or two he will begin to erect machinery and boilers - He says half of the tubing is laid and in 20 days if weather is favorable the whole net work will be completed -

Italian Central Station

Price of Dynamos. It was my intention to put the price of dynamos down low but on consideration decided that, as it was not absolutely sure of our prices we had better put the price of the L machine at £2500 delivered in gare packed etc; which is 12½ per cent reduction. I have also notified the Societe Electrique that the price of K will be lowered to £6150 which is about the same reduction. — You can therefore give whatever price you like to Siemens; but speaking privately to you I am sure I can deliver much cheaper than these prices, and still have all an

~~price~~ profits, the price of the I will be covered about the same percentage —

Berlin Theatres I send you the devis for the two theatres — I have given nothing for "amenagement de locale" because I think the Rathe-

DEVIS = ESTIMATE, SPECIFICATION

S.S. Burt 5/11/1979

mann will employ German boilers — I send for a "tracée" for Babcock & Willcox boilers and also for Belleville Boilers but I don't think he will use either because there must be a good tubular boiler made in Germany. The room is also too small for the B & W boilers although they are counted in devis — The prices of Dynamos are New York prices, also the tubes and I have at present no means of knowing whether they will be cheaper or not — You will see that we have made an improve everywhere, and on "Exploitation" we have amortised capital 10% Entretien 2% — We have counted 2 Kilos Gas per horsepower although Armington & Sims will guarantee 1¼ Kilo — There in "recettes" we have ~~counted~~ counted the gaz at 20 centimes and 22 centimes as I don't know exactly what it will be there. If it is higher than these

3

You can put it on sheet 8. it will make the dividend higher. I believe I have made everything as high as possible and I am sure it will cost no more — I should like to know what Rathenau thinks of it — the "Amenagement of locale" which I have left out will make probably about 10 or 15000 fr more on capital not more.

Everybody generally pleased with your German contracts —

Yours truly

Chas Batchelor

444

428

Feb 1st 1883

Major Eaton

New York

My dear Major,

Will you be kind enough to send me a few of the small Engineers instruction books which you have there, as they will be useful to me, some of my engineers neither writing nor reading French and German —

Also would you send me a copy of the articles of association of the Edison ~~Electric~~ Electric Light Co of Europe (Limited)

Yours very truly

Chas Batchelor

429.

Feb 2nd 1883 –

Chas Lever Esq

Bowdon Cheshire –

My dear Sir, Some months ago you kindly sent me a sketch of your patented lamp – It seems to me to be a cheap one to make, if it is reliable – We frequently are obliged to give arc-lamps in connection with incandescent, as in case of Burns theatre etc – I should like to have a test of yours with the view of using it – Have you any in Europe? and where are they being manufactured?

Very respectfully Yours

Chas Batchelor

366

430

Feb 1st 1862

Francis R. Upton Esq Newport —

Dear Dear Upton, Will you kindly send me some copies of the test and the work covers you have for Camp life so that I can tell my friends about whether I am keeping up to standard or not — How is your Chance that for 1862? and what is the prospect?

Very respectfully yours
Chas Hatchett

422

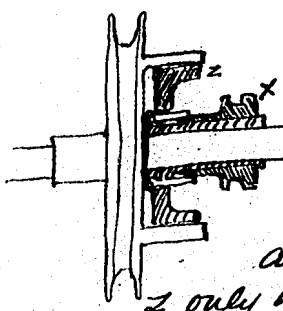
431

Feb 1st 1883.

Francis Jehl Esq Brünn Autriche.

My dear Francis,

I must thank you for circulars and rope samples — Rope driving for K & L. dynamos I am sure are a good thing we shall not have the heated bearing with them — After my return from Brünn I commence immediately to have a K made to drive by rope also a clutch arrangement so that you can throw it out and in without stopping the engine — This clutch has to be a peculiar construction as it must not put end friction on the shaft — the cam X is pushed in by a wheel and screw on the base and the torques Z only have to move about ½ of a millimetre



Yours

Chas Batchelor

437.

7 Feb. 1883.

Major Eaton, 65 5th Avenue New York.

My dear Major. I send you today by Express (2138) two thousand one hundred and thirty eight parts of founders of the Societe Industrielle et Commerciale Edison and (2375) two thousand three hundred and seventy five parts of founder of the Societe Electrique Edison shall notify you by cable of their departure and what steamer they go on —

I received from M. Porges (3000) three thousand shares of each: of the Societe Electrique's I send you

No. 1 to 2375 inclusive — 2375

I keep in my possession (until I have received the Compagnie Continentale also) for M. Puskas and Bailey — — — —

No. 2376 to 2500 — 125

I delivered to M. Leon No. 2501 to 3000 = 500

total 3000

Of the 3000 founders shares of the Soc. Ind. I send you

	No. 1 to 300 inclusive	—	300
Also	" 351 to 900 "	=	550
also	" 1001 to 2288 "	=	1288
I keep	" 2289 to 2400 " for Pust & Bailey		112
I delivered to Leon	No. 301 to 350 inclusive	=	50
" " " " "	901 to 1000 "	=	100
" " " " "	2401 to 3000 "	=	600
	total		3000

2

Your letter of Oct 7th instructed me to hand to Messrs. Forges and Leon the parts of founders due to them as promoters and that on the receipt which you enclosed I must have both their names. This I could not do as the letter of 15 Nov. 1881 does not mention M. Forges at all but only M. Leon as I delivered to M. Leon the shares and got M. Forges to put on the same receipt a declaration that the Edison Electric Light Co owed him nothing — I had M. Fournaud witness the signature of M. Leon (although in France it has no value at all) as I knew that in the states it was necessary.

If you remember our contract was made with Edison and the Edison Electric Light Co of Europe (Limited); but I only received powers to receive these founders shares from you, representing the Company; M. Forges could have refused to give them to me without three similar letters signed by Mr Edison. Will you be kind enough to see that these are prepared and sent to me signed by Edison, as I have promised M. Forges to get them for him on receipt of these M. Forges will make a similar declaration in favor of Edison to the one he has made for the Edison Light Co. of Europe —

I send you a copy of the letter of 15 Novembre 1881 mentioned in the forms of receipt 2 and 3

Very respectfully Yours

Chas Batchelor

3 enclosures

Paris 15 novembre 1881

Monsieur Chi Léon Paris

En vertu des pouvoirs qui me sont donnés par M. Edison et par la Electric Light Company de New-York, je viens vous reconnaître les avantages suivants dans la formation des sociétés prévues par l'acte sous seings privés de ce jour, soit un dixième des parts de fondateur attribuées à M. Edison et à la Electric Light Company dans la société d'exploitation au capital de un million, – un dixième des parts de fondateur qui sont attribuées dans la société d'installations isolées en des villes au dessous de dix mille habitants, et un quart des parts de fondateur attribuées à M. Edison et à la Electric Company dans la société de fabrication.

Je vous autorise en conséquence et vous et déjà à retenir ces divers titres lors de la création de chacune des trois sociétés prévues.

Agréez monsieur mes salutations empressées

(Signé) Batchelor, Bailey

I approve of the above arrangement by
M. L. F. Bailey
(Signé) Lowrey

438

Feb. 8 1883.

Major Eaton 65 5th Avenue New York

My dear Major,

I confirm my cable of to day as follows:-

Cable:- "Kyrecky Newyork. Founders Cactique and Indemnitie on Suevia ninth Batchelor"

Shipment of founders shares

I packed these shares in two cases and sent by Wells Fargo & Co; and hereby enclose you receipt.— They are insured for $2000,— but declared nominal value; and will be passed as human papers; as if declared of any value the duty there would be 25%. I do not think they will be opened without notifying you and if you are notified by all means send some one to be there as of course they are all made to 'portun' and could be easily stolen

The Continentale shares shall be delayed as little as possible after receiving the powers

Very truly yours

Chas Batchelor

1139

Feb 8th 1883

My dear Mr Lever,

Thanks for your letter

I shall be in London some time this month and will take the opportunity to go and see them — It would not be well for you to even send a lamp here for trial as that would invalidate your patents here except you have a special permission from the Government — In the meantime you might give me some idea of what arrangement could be made with you for supplying these lamps placing places where we want them outside of France, and whether you intend to manufacture them here. Also what arrangement could be made for us to manufacture what we want for ourselves, if it proves satisfactory to me — What are the numbers of your patents in the different countries?

Yours truly

Chas Batchelor

440 Feb. 8 1883.

Thos A Edison Esq New York.

My dear Edison, There is a very serious fault in your K and L machines which I presume you have remedied ere now. I find nearly all of them have it. The cap that screws on the commutator to hold the bars tight projects over the end of the body of commutator - This will do no harm as long as the machine turns one way; but if it has to turn the opposite way to which the commutator cap screws up it will tend to unscrew the cap against the bearing, every time the spring on end of shaft lets it touch the bearing -
I notice if we put one of your chaps in lathe to turn a commutator they are frightfully out of truth How is this?

Yours truly
"Batch."

447

20 Feb. 1888

Private!! J. F. Bailey, Esq Kaiserhof Berlin —

My dear Mr Bailey,

Johnson is in London again and I had a letter from him yesterday. He says that Hopkinson is anticipating Edison in some of his things and it looks as if we may have trouble by his taking out patents for same on Continent — If you go there this week don't fail to see him. He is at the Royal — Don't fail to know what the improvements are that Hopkinson has made so that if they are included in any of Edison's specifications we may apply them — Johnson thinks these (whatever they are) are of great importance

Yours truly

Chas Batchelor

20 Feb. 3

E. Bailey Esq

Consul for Berlin

My dear Mr Bailey,

As you well know Bailey we have had a great many objections from the German patent office to our various claims, these objections although appealed against are generally successful and the consequence is the most that part of an claim is often cut out — Mr Edison's applications for patents almost always contain something not known in the art before, some new phenomena which the patent office do not understand, and which is frequently not understood by such eminent men as Siemens — Our patent agent there is not at all conversant with electricity; will difficulty mastering the electrical part let alone the new phenomena; cannot explain the novelty of the claim and thus we lose it — Now this might certainly be done if we could have a good expert there, for preparing our [illegible] who know strongly electricity (he does), & the patent [illegible] who will take the specification as it arrives from America, and instead of putting it in, just as it arrives, will [illegible] it well to know exactly what Edison has new in it, [illegible] then word it so as to be acceptable to the Office —

Edison's specifications when received from America are not always so clear as they should be for the patent office; this occurs from the fact, that Edison who is always [illegible] far ahead of other inventors in his line, continually finds new phenomena, & each of which he generally gives a name; these names when translated into foreign

language cannot be understood, so that you see it is very necessary that these phenomena should be very accurately described so that the office can understand what we really claim — You can easily understand that in such cases, the advice given by Mr Letsche as expert to Mr Knoop, or the advice of Mr Siemens to the Patent office, on things which are not very clear and yet entirely new, may be very detrimental to us from the simple reason that they don't understand it —

I believe Mr Armengaud is very much opposed to our interfering in the patent arrangements but you know as well as I do that Mr Knoop who probably can take out patents for washing machines & engines well cannot take out good electrical patents

I think Mr Armengaud weakens his own position when he gives us to understand that in Mr Knoop we have the best of service; and I should be very much better satisfied if he would study & work hard to get the essential claims through, which are difficult (because not understood) instead of leaving it Knoop to take what he can get

Very truly Yours
Chas Batchelor

449

Th. A. Edison Esq

22 Feb. 1883

Newark —

My dear Edison,

In conformity with your letter of 8th Feb I have read your letter of 16 Jan and 2nd Feb. to the Société Electrique and also your cable to them in which you say you ship the Weiton engine & have settlement for future adjustment —
I have not seen the letter of yours to Bailey as he is still in Berlin — I have talked the matter over with Nan and am sure that if the business had been done through our Paris people there would have been no question at all about it — A letter from the Station Co has been received (which I have translated and send you inclosed) from which you will see that they are disposed to settle the thing amicably —
Of course you cannot be expected to suffer a loss whenever you find a new and better thing and I shall continually put this forward with our people until some satisfactory arrangement is reached

Very truly yours

Chas Batchelor

450

22 Feb 1883

J. F. Bailey Esq

Berlin

My dear Mr Bailey,

In answer to your letter of 21st Feb. I have cabled you as follows:- "Bailey Kaiserhof Berlin Wednesday Friday January if nothing prevents Batchelor" – As you well know I am authorized to pay ~~you~~ Barnum & Bailey their 5 per cent of all these shares and I have no interest in keeping them in my hands – I am trying to feed things so that when the powers come for transferring the patents we may not have to wait a minute –

Private

I think from another letter that Johnson has ~~sent me~~ that Hopkinson has made some very considerable improvements on the big elephants and he thinks it very essential

2

that we should know what it is so as to secure it in some way – I am sorry you cannot go there immediately as I am sure there is something in it or he would not say so – This of course is entirely between ourselves

Very truly yours

Chas Bonaparte

452

26 Feb. 1883

Thos A Edison Esq New York —

My dear Edison,

Many thanks for statement of account as sent by Insul — I find it quite correct and am perfectly satisfied; considering everything I think it is a very handsome year —

Please give me credit for $23.10 paid to Brandon Apl 13th 1882 for extension to Spanish Colonies of Sets 24 and 25 and mentioned in my letter of that date. receipted bill for which was enclosed in registered letter 14 Oct 1882 —

Also give me credit for $63.05 cash paid to Brandon for 36. which you ordered me to take for you in France alone; Brandon's receipt for this was enclosed in registered letter of 14 Oct 1882 —

Also make me a debtor to $11.55 money that I claimed from Brandon as I found that the extension of 18 l. to the Spanish Colonies Sept 18th 1881 had been paid for by Mr Jewell as well as myself.

This makes balance Jan 31st in my favor $2404.32

Yours truly

Chas Batchelor

453.

26. Feb. 1853.

Messrs Palmer and Moore.
Manchester –

Gentlemen

Please send me "Galileo Galilei & the Roman Curia" by von Gebler, English translation by Mr. Sturge.
If Vol 4 of Roscoe and Schorlemmer's Chemistry is out send it also

Very truly yours
Chas Batchelor

4454

Feb 26 1883.

Major Eaton,

Newport —

My dear Major,

Enclosed please find two receipts which I cannot well charge to anyone but the Edison Electric Light Co of Europe. —

723. "Ekwoide Newport:- Mr Bailey wanted settlement will Sam will be finished this week."

783. "Ekwoide Newport:- all founders made to bearer if take them Porges says (the Edison Electric Light Co of Europe) loses right intervene according to article six paragraph ~~[illegible]~~ foie statutes continentale must get twenty percentum made name (Edison Electric light Co of Europe) before receiving and send others on whilst this is being done answer."

$32.60 and $110.10 or $142.70 —

Will you be kind enough to pay this sum to Mr Edison for my account and oblige

Yours very truly

Max Batchelor

2 enclosures

1456.

13 Oct 1883

Mr A Edison Esq Newyork —

My dear Edison,

In answer to my cable to you from Brussels, "Mr Johnson advises our filing distribution" I have received at London yesterday your as follows — "Follow Myers directions concerning distribution and have answered it today with — "Fifty nine filed in France take stop other countries if do englishman will be ahead of us"

The fact of the matter stands thus; as soon as Johnson informed me of the fact that Hopkinson had anticipated you in this matter of distribution I immediately decided to file this patent, and it was well I did; as Hopkinson I know was in Paris all last week, and I suppose that would be his business there; now he cannot file his before us in the other countries as we have been sent some days ago, some of them are allowed by the time and if

I take steps to stop them he will certainly be ahead of me; I shall however act in accordance with your wishes if I receive a telegram in answer to mine of today requesting me to still act in accordance with Ogier's letter

Yours "Balch"

456

16 Mch 1883.

Francis R Upton Esq

Orange. N.J.

My dear Upton,

Your letter of Feb 22nd to hand enclosing 3 duration curves. I however do not understand them at all as the poor curve says the duration is 280 something and you say the average is 326 minutes at 64 c.p. What does this mean? Again the best curve you ever got says 54160 and average 24335 minutes. what does this mean? Then again I see they are all for 8 x 6 x 14. I never made any of that size all mine being 8 x 6 x 13½ – When did you change back and what for? Are you using the 8 x 6 x 14 in Central Station or the others?

Yours truly

Chas Batchelor

457

16 Mch. 1883

Mr A Edison Esq Newyork

My dear Edison,

Your cables to hand as follows:—

14 Mch. "Can file 59 if patent for 15 years and full fee paid otherwise jeopardize american patent."

also:— 15 Mch.— "Bergman urgently needs work. greatly improved robat 10 per cent cheaper try send orders."

As regards the first the full fee will be paid of course —

As for second I will try and do something in a day or two

Very truly Yours

Chas Batchelor

460

20 March 1883.

J. P. Bailey Esq
London –

My dear Bailey,

I am being pressed to collect the Founder's Shares belonging to the Edison Electric Light Co of Europe (Limited) & send them to America — I learn that at a recent meeting of the Compagnie Continentale the board decided that all the German and a few of the French patents must be transferred to it before the Founder's Shares can be given. – Mr Kau says you object to this as regards Germany – I wish we could settle this matter soon

Very truly yours

Chas Batchelor

1861 20 Mch 3

Thos. A Edison Esq Newport.

My dear Edison,

Just received your cable this morning:—
"file fifty eight sixty twentieth"
I have given orders accordingly—
Armengaud just (5 p.m.) now telephones me that he has filed French today

Yours
"Batch"

Charles Batchelor Letterbook, E-6757-2

This unbound letterbook covers the period September 1887 and contains correspondence relating to the purchase and installation of boilers, steam engines, and other equipment for Edison's new laboratory in West Orange, New Jersey. Most of the letters are by Edison and are in the hand of Batchelor, acting as Edison's secretary. The book contains 53 numbered pages. Page 1 is missing; pages 5 and 11-53 are blank. All the documents have been filmed.

Now is the winter of
our discontent made glorious summer

Chas Satchell

Chas Satchell

Elevator for Laboratory Sept 14 1887

Holyoke Mfg Co

Holyoke Mass.

Gentlemen

I enclose you sketch of laboratory building at Orange N.J. The well hole as you see is 6' X 6'— We have 6' 4" in Basement and it must be arranged so that all the necessary machinery shall go in the basement— Please let me have estimate as soon as possible and oblige

Yours truly
T. A. Edison
by Chas Batchelor

Enclosure

Address Edisons laboratory
Orange N.J.

Overcharge.

Sept 15th 1884

E. P. Bullard Esq
14 Dey St. N.Y.

Dear Sir

In the enclosed bill the item of $24.24 is unjust as the centres mentioned did not come in the first place with the lathes & should be furnished — We ought not to pay for the fitting of the slide rest as it did not fit the lathe when it came Please have this corrected & oblige

Yours truly
T. A. Edison
per CS

1 Enclosure

Edisons Laboratory. Sept 19 1887
Jarvis Engineering Co
New York.

Gentlemen,

I have your letters of Aug 26, Sept 7 and Sept 15th before me — I understand from them that in regard to the three B. & W. boilers and two A 48 engines that I desire to put up at my laboratory at Orange N.J. you will do the following:—

1st Excavate sufficiently to give a first class foundation for all going three feet deeper than the plans call for if the nature of the ground requires it —

2nd — Furnish and lay all red and firebrick for engine foundation, boiler foundation and setting, and flue —

3 Furnish and set cap stones for Engine foundations as called for in plans —

4. After the boilers have been placed in position lay all special brick furnished by B & W with the boiler and called for by their plan

2

5 Build up the flue from boilers and connect it to chimney as per plan –
6. Pave the boiler house floor with whole bricks and furnish the bricks for same –
7 – Furnish and set all castings, plates, etc that may be requisite for Jarvis setting and give right to use same –
8 The whole to be done in a first class manner for the sum of ($1988) nineteen hundred and eighty eight dollars payable one half when all work is done and one half thirty days after the plant is started
9 To be finished thirty days from this date.
If this is your understanding of the matter you can consider your offer accepted and can send your men at once as one boiler is already here

Truly Yours
L. A. Edison
per G.B.

Edison's Laboratory.
Orange N.J. Sept 19 1884.

The Edison Machine Works
19 Dey Street N.Y.

Please order for my account
(2) Two Worthington Steam pumps size:-
$5\frac{1}{4} \times 3\frac{1}{2} \times 5$ price $190 each
$14\frac{1}{2}$% Off.
(1) One National Feed water heater #13.
(M M+M are agents for this)
Please have these shipped via Erie
R.R. to Orange N.J. as soon as
possible

Truly Yours
T.A. Edison
per OB

Edison's Laboratory
Orange N.J. - Sept. 21st 1887

Messrs Taylor and Coy
Corner No 10th and Berry Streets
Brooklyn N.Y.

Dear Sirs

We are ready for Bench legs and if you have about a dozen ready - Please send them as quickly as possible to Orange New Jersey by Greenwood Lake Railway. Erie R R foot of Chambers Street address Edison Orange New Jersey

Yours truly
Chas. Batchelor

Edison's Laboratory
Orange N. J. Sept 21st 1887
The Edison Machine Works
19 Dey Street
New York

Dear Sirs

Please send to the above address Orange N. J. Stock and Dies for Piping
Dies 1/2" 3/4" 1" 1 1/2" 2" 3" 4" also
1 Pipe Vise
1 Pipe Cutter

Yours truly
Thomas A. Edison

Charles Batchelor Letterbook, Cat. 1247

This unbound letterbook covers the period September 1887-October 1890. All of the letters are by Charles Batchelor and are in his hand. The correspondence relates primarily to the patents of Batchelor and Frank J. Sprague. Other letters concern the sale of stock in various Edison companies. Among the recipients are Edward H. Johnson, Brandon et Fils, and the Edison Machine Works. The book contains 68 numbered pages. Approximately 70 percent of the book has been filmed.

0/9.

New York Sept 13 1887

Brandon et Fils
1 Rue Lafitte -
Paris -

Gentlemen,

It is necessary to work Sprague #9 170819 and #10 170820 previous to Nov. 30th 1887 and I wish to have you do so — I have enclosed copies of the American patents corresponding to the French ones for your guidance — Please do what is necessary and send bill for same to me

Very truly yours
Chas. Batchelor

0/13/

Oct 4th 1884.

My dear Mr Johnson,

I beg to inform you that I have just received from Paris the official announcements of the working of the Sprague French patents

168121
168122
168123
168697
169153

all in proper order according to law

I am informed also that #170819 and #170820 which have only to be worked sometime in November are almost finished

Very truly Yours

Max Batchelor

6

Oct. 9th 1889.

The Edison Machine Works
Schenectady NY

Gentlemen,

In regard to the assignment of my patents for improvements on dynamos to you. I find that the contract of the Edison Electric Light Co with the individual stockholders of the Edison Machine Works expressly stipulates that they shall transfer patentrights to no one without first offering them to that Company at same price — If this can be removed I will immediately transfer the ones already taken

Truly Yours
Chas Batchelor

Oct 10th 1887.

Dyer and Seeley

City

Gentlemen,

I find now that a contract between the Edison Electric Light Co and the individual stockholders of the Edison Machine Works prevents me at present from assigning my patents to the latter Company — You had better therefore take out the patent you speak of in my name and send bill to the Edison Machine Works with my endorsement of it as OK.

Truly Yours
Chas. Batchelor

0/67

Oct 10 1884.

L. Taylor Esq
Cor No 10 & Berry St
Brooklyn N.Y.

Dear Sir

Enclosed please find Em W° note # 505 payable to me for $684 55 — It's endorsed and you can sell or discount it and put the proceeds to my credit on a/c of stock of the Universal supply Co of this City — The balance of a thousand dollars I will find some means to forward during the next two or three weeks

Truly Yours
Chas Batchelor

Oct 10 1887

The Edison Machine Works

Schenectady N.Y.

Gentlemen,

I have been obliged to discount Note # 505 from you to me for $684 55/100 payable Jan 26 1888 — Please meet it as it comes due as any other note — I will take another equal amount probably before that comes due

Truly Yours

Chas. Batchelor

6/18

Oct 15 1889.

The Edison Machine Works
Schenectady N.Y.

Gentlemen;

Enclosed I hand you
236 Due Oct 10 1889 $4388.81 pay to CB.
And # 377 " " 20. " $686.18 " CB.
Please renew them and date them
Oct 4th & 20th respectively — Please
also send me Checks for interest —
I had entirely forgotten the first
one until Mr Lusue's letter called
it to my attention

Truly yours
Chas Batchelor

2 Enclosures.

Oct 17 1884.

A. S. Clark

34 Park Row New York.

Dear Sir —

Please send me

✓	Carpenter's Mechanical philosophy	570 pp	·54	1.00
✓	Denton. Philosophy of Mystery			1.00
✓	Faraday. Forces of matter		·60	.50
✓	Hill — Secrets of Sanctum	312	75	1.00
✓	Hovey Mind reading	201	·85	75
✓	Jacob Hindoo tales	376	73	1.00
✓	Miller. W W or Successful man			.50
	Omens & Superstitions	160.		.75
✓	Browne J Ross. Mineral res.		67.	.75
✓	Memorable things of Socrates		1757.	.50
	Bradleys Verdant green			.75
	Brown Artemus Ward		1865.	1.50

Enclosed find Check for $10 for payment for same. Please send them to my address as above.

Truly yours
Chas. Batchelor

24

Oct 26th 1887

My dear Bergman

Of course you know that the option on Sprague Stock that I gave you on Oct 10th for two weeks has expired — I do not wish to sell any more at that price — I am quite willing however to receive offers for any part of 100 shares or an option for same for a short time —

Very truly Yours
Chas Batchelor

2/15

Nov. 8 1887

My dear Johnson,

I return you your two notes cancelled and acknowledge receipt of two renewal notes & check to cover interest on same —

In regard to Sprague Stock I sincerely hope your prophecy may come true — I see nothing to hinder it from selling at par or a great deal higher (if all were agreed) — I always thought that much better prices would be realized but unfortunately there are so many of us such impecunious devils that must have money and there seems to be always so much Treasury Stock that must be sold to keep the Company in funds for new work (which I know is very important) that I am afraid it cannot stay at par for a long while — I consider I am sacrificing a great deal when I have to sell it at par or lower and I certainly shall only do so when I am urgently in need of money — At the same time I do not feel like loading myself up with more with the present outlook

Very truly Yours "Baldt"

0/21

Nov. 28 1889.

W. N. Perry Esq
Cor. Stk & Pet. Exchange.

My dear Perry

I shall be in want of quite a little sum of money to use in the coming Spring — In the neighborhood of $50,000 — I have got the following stocks that I can draw on to help me get it viz:-

Sprague E. RW. & Motor Co
Edison Ore milling
Edison E. Light Co of Europe (Limited)
Bergman & Co
and Edison Machine Works

The last two are subject to an option at the same price to the Edison Electric Light Co of New York for 10 days but I think there is little fear of their excercising the option & it does not carry with it this option when sold to the third party

Bergman & Co as you know pay over 8½% on its capital & the E.M.W. will pay handsome dividends this next year

Truly yours Chas Batchelor

Dec 4th 1884

The Edison Machine Works

Schenectady N.Y.

Gentlemen,

Enclosed I hand you note #430 payable to myself for renewal — $2825 61/100 — I should be glad if you could send me a few hundred dollars of this in a check and reduce the face of the renewal by that amount as I need the money

Truly yours

Chas. Batchelor

Enclosure = Note

#430 - Aug 12th 4 m.

C.M.W. & CK Due Dec 15th

CB.

15

Dec 24 1887

E. H. Johnson Esq

President E.E. Light Co
New York —

My dear Sir,

I wish you as President of the E.E. Light Co would call the attention of the Standardizing Committee to the pernicious habit of the different Wiring Cos of bunching several wires of same polarity in one moulding groove — From the earliest days of Incandescent lighting we have had evidences frequently of the destructive effect of such work and it is so patent a fault that I think any one is justified in supposing that all wiring men are fully acquainted with it — I find that all the wiring men that I have come across lately are entirely ignorant of it & I should judge from their conversation that it is the rule to do so wherever they are short of room

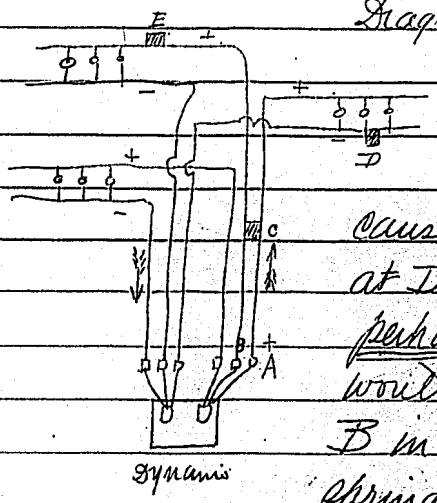
One year ago the United Co had a very heated controversy with the Hall Rly. through their engineer about this same thing & I was called to give an opinion which I

2

did, and at that time I supposed that they (the Holl Bros) were convinced & we should have no more such work — Now to my astonishment I find that Mr Edison's house is wired in that way — Here is an instance of the most enlightened talent of the wiring community either ignorant of the regular safeguards to be observed or wilfully neglectful —

Since I found out that Edison's house is wired that way a few weeks ago I have been making enquiries of other plants in New York and I assume you it is most important that you call attention to it & have it stopped

Diagram:—



A + B are both same polarity and are partially crossed at C by abrasion; water, or other cause — In time a ground occurs at D and if not got out quick perhaps another occurs at E — This would probably burst safety catch B in which event an arc would spring at C safety catch A carrying the current whilst everything around C

takes fire etc. etc –
The fact that such a fire is not likely to occur until long after the installation is finished and paid for is perhaps the cause of the indifference of wiring people to this fault –
It certainly exists & I hope you will stop it before we go any further

Very truly Yours
Chas Satchelor

0

Books

Jan 2 1888.

Prof A. E. Foote

1223 Belmont Ave
Phila

Dear Sir

Answering yours of Dec 29th 1887
Please secure for me the 33 Vols of
Philo. Magazine as mentioned viz:-
Vol 1-29 3rd Series—
" 1, 2, 3, & 15, 4th Series.
1832 & 1857. price $15—
Send me bill of same anytime & I will
remit check—

Very truly Yours
Chas Batchelor

0/

Jan 5. 1888 –

The Edison Electric Light Co
16 Broad Street
City

Gentlemen,

I have received an offer to buy (100) one hundred shares of Bergmann & Co's stock at (90) ninety dollars per share – As an individual stockholder of Bergmann & Co I am obliged by contract to offer the same stock to you at the same price –
I therefore now do so and request that you will inform me as early as possible whether it is your intention to exercise your right in this case or not

Very truly Yours
Chas Batchelor

Jan 5th 1888

17/29

Jan 8 1888

Brandon et fils
Rue Lafitte 1
Paris —

Gentlemen

Sprague's French patent No. 174045 dated Feb. 9 1886 must be worked before May 24 1888 — I enclose a copy of the corresponding U.S. patent and request you take the necessary steps to have the French patent worked in time & the process verbal sent to me with bill as usual

Very truly Yours
Chas. Batchelor

1. Enclosure

28/31 Brandm et fils

New York Jan 14th 1888 29

1 Rue Lafitte 1
Paris France

Gentlemen,

The (4th) fourth annuity on Sprague patent in France 167395 March 3 1885 must be paid before the 2nd March of the present year — Please pay the same & send bill to me — Please be kind enough to pay all annuities on the following Sprague patents in France as they come due & send bill to me — viz: —

161009 March 18 1884 1st 2nd 3rd & 4th paid
167395 March 3 1885 1st 2nd & 3d paid
168123 Apl 7 1885 1st 2nd & 3d paid
168122 " " " " " " " "
168121 " " " " " " " "
168697 May 5 1885 1st & 2nd ~~paid~~ and 3d paid
169153 May 26 1885 1st 2nd and 3d paid
170819 Aug 25 1885 " " " " "
170820 " " " " " " " "
174045 Feb 9 1886 1st and 2nd paid
174949 Mch 2 1886 1st & 2nd paid

Please let me know whether you understand this & will undertake to have this done & bill same to me

Truly Yours
Chas Batchelor

29/35

Jan 31st 1888

D.H. Brandon et fil
Paris France -

Gentlemen,

Sprague's French patent #161.009 I am informed must be reworked previous to June 18th of the present year - Please see that this is done I believe you had this patent worked in 1886

Very truly yours
Chas Batchelor

Send copy of Am. patent -
CB

10

Feb 4 1888

My dear Insull

I enclose you patents of Chas Batchelor as follows: —

338383 Mch 23 1886 Commutator Cup

341990 May 18 1886 Insulation.

Also patent

351544 Oct 26 1886 Walters for Transformers.

To this last one is attached Walters assignmt. of half interest to me & also Walters & my agreement in regard to profits

In case of Walters making a new deal with the E.M.W. this last as well as the one he holds should be destroyed —

These are all I have in my possession now but if you will send me a copy of the letter I wrote to E.M.W some time ago (in which they were enumerated) I will tell you where the others are — I think Walters has some & Dyer the others

Batchelor

35/36

Mch 22 1888

Brandon et fils –

Paris France

Gentlemen,

In answer to yours of Mch 3 I enclose Post Office orders for 330 fcs in payment of

4th Ann Sprague French 167395
5" " " " " 161009
3d " Batchelor " 174940

Truly yours
Chas Batchelor

Enclosures –
P.O.O. 62836 130 Fcs
" 62835 200 fcs
Dated Mch 22.

38/44

Oct 8th 1888

Mandon et Fils

Paris France

Gentlemen

I have just received your letter dated Aug 4th in regard to my patent 176211 — I hope you have not let it run out but made the necessary working —

The address on the envelope (which I enclose) has done the mischief — No-one in this country would take it for 25th Street and as I have only lately bought this house it would be impossible to find it in the directory —

Please let me know immediately whether I have lost it or whether you have done what was needed

Truly yours C. H. Butcher

40/65

Jan 20th 1889.

Brandon et fils.
Paris France

Gentlemen,
Please find enclosed draft on Paris & your order for (Fr110) One hundred & ten francs in payment of 4th Annuity on Sprague French patent 174045 due Feb 9 1889

Truly yours
Chas Bartholomew

1 Enclosure

90/58

May 1st 1889

E. H. Johnson Esq
16 Broad Street
City

Dear Sir

Please send to me or Brandon et Fils Paris a draft on Paris for Fcs 550 — payable to Brandon et fils for payments they have already made as follows:—

6th	Annuity	French	Sprague	161009
5th	"	"	"	167395
5th	"	"	"	168121
5th	"	"	"	168122
5th	"	"	"	168123

Very truly yours
Chas. Batchelor

55

June 7 1889

E H Johnson Esq
Dear Sir

The money that I have expended on Sprague Trench Patents in detail is as follows:—

	Apl. 15 1886 Ann. 168697 + 169153	$42.00
1886	July 8. " Expenses of Model + Working 161009	140.00
	Sept 1 Annuities 170819 + 170820	42.00
	Oct 20 Cash to E H Johnson	1000.00
	Dec 6. Ditto —	82.06
		$1306.06
1887	Jan 4 Gt Handford —	25.00
	Feb 1st Annuity 174045	22.00
	" 15. Annts. 161009, 168121, 168122 168123 168697 169153	132.00
	Aug 1st Working 167395	42.57
	Consultation in Lane	5.00
	5 Annuities 170819, 170820	44.00
	Sept 27. Working 168123 168122 168121, 168697, 169153	242.75
	Nov 19 Working 170819 170820	85.14
		$598.40
1888.		
	Jan 31 Ann. 174045 Ditto.	22.50
	Mch 19 Ann. 167395 161009	44.00

1888 Apl 10. Ann. 168697, 169153, 168121. 168122 168123		110 00
May 22. Working 174045		52 51
June 30 " 161009		42.63.
July 30 Ann. 170819 170820		44 00
		$ 315.64

Recap.

1886 Cash exp.	$ 1306.06
Int at 6% from Dec 31 1886 to June 1st 1889	189.37
1887 Cash exp.	598.40
Int. 14 m. at 6%	45.99
1888 Cash exp (no int.)	315.64
	$ 2455.46

As you are desirous of paying this age I have sent you by bearer receipts as follows:—

For 4, 5th, 6th Ann.	161009
" 3, 4, 5th "	167395
" 2nd 3rd 4th + 5th	168121
" " ditto	168122
" ditto	168123
" ditto	168697
" ditto	169153
" 2nd 3rd + 4th	170819

2

1888 Apl 10. Ann. 168697, 169153, 168121. 168122 168125		110 00
May 22. Working 174045		52 51
June 30 " 161009		42.63.
July 30 Ann. 170819 170820		44 00
		$ 315.64

Recap.

1886 Cash exp.	$ 1306.06
Int at 6% from Dec 31 1886 to June 1st 1889	189.37
1887 Cash exp.	598.40
Int. 14 m. at 6%	45.99
1888 Cash exp. (no int.)	315.64
	$ 2455.46

As you are desirous of paying this age I have sent you by bearer receipts as follows:—

For 4, 5, 6th Ann.	161009
" 3, 4, 5th "	167395
" 2d 3d 4th + 5th	168121
" " ditto	168122
" ditto	168123
" ditto	168697
" ditto	169153
" 2d 3d + 4th	170819

3

For 2d 3d & 4th 170820
For 2d 3d 4th 174045
I also send you the "Proces Verbal" which is the official receipt for working Patents 161009 18th June 1886
16th June 1888
" 167395 29 June 1887
168121 26 Aug 1887
168122 " " "
168123 " " "
168697 7 Sept 1887
169153 " " "
170899 29 Oct 1887
170820 " " "
174045 15 May 1888

All these are in full working order & Brandon et fils do the necessary sending me bills about once in six months the last one was about 6 weeks ago when I believe you sent me a draft for him — The payments you have made to him are not included in his account

Very truly Yours
Chas Batchelor

35 annuities
11 P.B.s
enclosures

Aug 18 1889

My dear Johnson,

Enclosed find
official receipts the 5th annuities
in Sprague & French

170 819 Aug. 25
& 170 820 1889

Truly yours
Chas Batchelor

e5/

New York Feb 8 1890

D. A. Brandon Esq Paris

Dear Sir

I do not wish to keep up the payment of annuities on my two remaining patents in France so please discontinue them & oblige

Yours truly Chas Batchelor

17

Oct 13 1890

Franklin Conch Esq.

Dear Sir -

Since I saw you last Saturday I have seen the Croft Mine - I have an idea that it can still be worked profitably if only a suitable arrangement can be made with the proprietors - Will you kindly answer me the following: -

1 What territory does the Croft Mine cover? - 2 Does it also own or control the small railroad to Peekskill? 3 Does the furnace at Peekskill belong to the property? 4 If I should decide to work it what is the lowest price that I could lease the whole thing for either per ton or per yearly rental

Very truly Yours

Chas Batchelor

142 Newark Daily Journal Apl 23 187

First notice of Motograph 147

Newark Daily Advertiser May 2 1877

As a singing telephone — but speaks of it as having made a telegraph instrument on same principle —

Newark Morning Register Apl 22 1877

139

Always gave 15 the credit of 1st dis

Edison ~~early gave Bell the credit~~

in an interview with a World reporter

Jan 11 1878 etc 327

5873-8

Cat. #1247

4000
3845
155

287.25
1.55
288.80

CHARLES BATCHELOR ACCOUNTS, 1878-1893

The three books in this set cover the years 1878-1893 and contain Batchelor's personal accounts. Only one book, which includes Batchelor's accounts with Edison, has been filmed.

The following book has been filmed:

Cat. 1318 Account book (1878-1888)

The following books have not been filmed:

1. Cat. 1245 Bill book (1881-1882)
2. Cat. 1340 Ledger (1891-1893)

Charles Batchelor Account Book, Cat. 1318

This account book covers the years 1878-1888 and contains financial records of Charles and Rosanna Batchelor. The entries, which are in Batchelor's hand, relate to his accounts with Edison; with the Edison Lamp Company, the Edison Machine Works, Bergmann & Co., and other domestic and foreign lighting companies; and with New York banks and financial institutions, including Drexel, Morgan & Co. and the Seamans' Bank. Included are records of patent royalties, stock dividends, and other payments resulting from Batchelor's interests in Edison's companies and inventions. Some of the accounts contain comments by Batchelor concerning his share in the proceeds from Edison's inventions. There are also records of the Batchelors' personal savings and checking accounts and listings of safe deposit vaults and their contents. The book contains 486 numbered pages, including an index beginning on page 481. The index has been filmed first.

Blank pages not filmed: 16-29, 48-49, 62-69, 100-105, 110-111, 118-119, 122-123, 144-145, 152-153, 174-175, 266-269, 284, 287, 296-297, 302-309, 314-319, 328-383, 398-459, 468-479.

Missing pages: 43-44, 285-286, 291-292, 463-466.

American Bell Telephone Co Stock	130.	A
American Pulverizer Co	270	
Bergmann & Co Stock a/c.	147.	
Bergman and Co.	142.	B
Blanford N.B. Light Co stock	251	
Compagnie Continentale Edison	132	C

482

D	Drexel Morgan & Co New York.		98. 252.	T				A
	Drexel Hadyes & Co Paris.		96.					
	Dyer & Seely (Patents)	–	260					
	Drexel Morgan & Co loan a/c		172.					
E	Edison Tns. A.	1						
	Edison Lamp Co	30						G
	Edison Machine Works.	34						
	Edison Electric Light Co	60	of New York.					
	Edison Electric Light Co of	70	Europe (Limited)					
	Edison Telephone Co of Europe	78	Stock –		Hale Thorne & Mining Co		164	H
	Edison Ore Milling Co.	88	(Stock)					
	Edison Electric Light in England 108.							
	Edison Electric Light Co of Europe Bonds.		112.					
	Edison Company for Isolated Light Ltd.		128.		Insul. S.		54	I
	Edison's Indian and Colonial Elec. Light Co		140		International R W Telegraph Co (Stock)		280	
	Edison Oriental Telephone Co		148					
	Edison Electric Pen and Duplicating press		156		Johnson's Lamp patents		79	J
	Electromotograph		158					
	Edison Shafting Mfg Co Stock a/c.		159					
	Edison Shafting Mfg Co		160					
	Electric Lube Co (Stock)		172.		Kheuai John	106		K
	Eleventh Ward Bank.		216.					
	Electric R.way Co of the U.S. (Stock)		270					
	" " " " " (Bonds)		46.					
	Edison E. Ltg Co of N.Y. (Stock)		126.		Levi Elie –		150	L
	Edison Mach. Works (Stock)		288					
	Edison Mining Co		320.					

M Miocene Mining Co. 86 / 1 R

	Miscellaneous Receipts		176	
N	Notes & Bills	46. 178.		
	New Commutator Dynamo		72.	
O				
	Painting Picture etc		292.	
	Patent Compound Dy. W+B.		113.	
P	Panama Canal	82		
	Phonograph	137		
	Patent New Connection for Commutator		74	
	Perry, W. S.		124	
	Patent Armature Gen		75	
	Patent (McTompsi) assigned Pt & Ine		77	
R.	Real Estate House lot 144 Plane St Newark		44	
	Railway Telegraph Co Telephone Co		52	
	Real Estate Lots in Williamsburgh		264	

	Speculation		282.	
	Societe Industrielle et Commle Edison	40		S
	Spring Valley Hydraulic Gold Co	76		
	Societe Electrique Edison (Actions)		134	
	Societe Sud et Commerciale Edison (Actions)		136.	
	Seamans Bank for Savings Gt. R. A.		154	
	Safe deposit vaults		200	
	Sprague E.K.R. & Motor Co		246	
	Sprague " " " " " France		278.	
	Telephone:- United States	50		T
	Telephone:- France	56		
	Telephone: Gt Britain	58.		
	Telephone:- Canada	80		
	Treasure Box Mining Co.	84		
	Telephone South America	138		
	Taylor Co Co	272		
	Taylor & Co Stock	274		
	United States Government Bonds 4 per Cent		114	U
	United States Government Bonds 4½ per Cent		120	
	Universal Supply Co		296	

W.	Walter's transformer patent (367,546)			43.	
	Walters motor starter			266	

Thomas A Edison —

			Dr.	Cr.
1880			$	
Feb.	15	Balance.	2485 87	
"	"	Gold + Stock Royalty	50 00	
"	28	" " " "	50 00	
Mch	1	Phonograph Royalty	28 53	
"	"	Per Postage Eng. Telephone payment	825 00	
Feb	17	Cash.		50 00
"	24	Work		1 00
Mch	2	Cash.		50 00
"	"	" (Phone)		7 35
"	16	"		50 00
	13	" C.T. Hughes.		1 20
	26	" (Bill)		2 96
	25	" Payroll		9 00
Apl.	1	" "		14 10
"	6	"		1000 00
"	1	"		50 00
"	8	" Payroll		3 00
"	15	"		50 00
"	17	" (C.T. Hughes)		1 96
"	29	" "		1 05
"	30	"		50 00
"	12	G. + S. Royalty	50 00	
"	31	" " " "	50 00	
"	1	Electromotograph	1000 00	
"	15	G. + S. Royalty	50 00	
"	30	" " " "	50 00	
May	15	" " " "	50 00	
"	30	" " " "	50 00	
June	15	" " " "	50 00	
			4789 40	1340 69
			4789 40	1340 69

Thos A Edison

			Dr.	Cr.
1880		Carried forward. $	4789 40	1340 65
May	17	Cash.		55 00
"	13	" C.T. Hughes		1 00
"	20	" Payroll.		6 29
"	28	"		50 00
June	3	" (payroll)		17 52
"	10	" "		30 00
"	19	"		50 00
"	19	" C.T. Hughes.		98
"	17	" (Payroll)		24 78
May	27	" "		14 35
June	24	" "		30 38
"	30	"		50 00
"	6	"		25
"	15	"		50 00
"	17	" (50)		2068 16
"	31	"		50 00
July	1	" Payroll		18
"	2	" "		24 22
"	8	" "		1 20
"	"	" "		4 00
June	30	Gold and Stock Royalty Telephone	50 00	
July	15	" " " " "	50 00	
"	31	" " " " "	50 00	
"	16	English Telephone payment (per contract) (58)	2068 16	
Aug.	4	Dekuatel bill paid by C.B.	77 00	
Oct	30	Gold + Stock Telephone Royalty Aug 15 – Oct 30 inclusive	300 00	
Aug.	28	Light	530 00	
"	27	Cash C Lamp Factory	3 71	
			7918 26	3868 86

Thos. A. Edison –

			Dr.	Cr.
1880		Carried forward. $	7918 26	3868 86
Nov	15 + 30	Gold + Stock telephone royalty	100 00	
Dec		20% Canadian telephone contract	400 00	
"	3	20% English " money rec'd	200 00	
Aug	5	Cash. payroll		5 75
"	14	"		50 00
"	15	"		2 50
"	27	" C.T. Hughes		2 50
Sept	6	" papers.		12 81
"	9	" payroll		1 25
"	1	"		50 00
"	15	"		50 00
"	16	" C.T. Hughes.		2 00
"	30	"		11 75
Oct	4	"		50 00
"	4	"		77 00
"	7	" C.T. Hughes.		90
"	21	" " "		94
"	28	" "		60
"	22	"		50 00
"	28	"		50 00
Nov.	18	Assessment to Edison Lamp factory (30)		1751 14
"	17	Cash.		50 00
"	4	" C.T. Hughes		1 25
"	11	" " "		65
Dec	1	Cash.		50 00
"	13	"		2000 00
"	15 + 31	Gold + Stock Tel. Royalty	100 00	
"	31	French telephone payment (per cont)	972 33	
"	10	Cash. C.T. Hughes		5
			11490 79	8144 90

Thos A. Edison

			Dr	Cr
1880		Carried forward $	11490 79	8144 90
Dec.	15	Cash.		50 00
"	16	"		95
Jan 1881	1st	Balance		
Jan	15	Gold & Stock Telephone royalty	50 00	
	31	" " " " "	50 00	
Feb 15th	28	" " " " "	100 00	
"	18	French telephone payment (per cent)	1942 86	
Jan	5	Cash		50 00
"	14	"		97 253
"	6	" C. T. Hughes		150
"	27	Assessment at Lamp factory. (30)		1500 00
"	19	Cash.		50 00
Feb	2	"		50 00
"	9	"		50 00
"	10	" C. T. Hughes		100
"	10	" Sapsell		279
Apl	30	Gold & S. telephone Royalty Mch 15-Apl 30	200 00	
May	12	English telephone (per centage)	2000 00	
"	15th 31	Gold & Stock telephone royalty	100 00	
June	4	English telephone (per centage)	335 30	
"	15th 30	Gold & Stock telephone royalty	100 00	
"	18	Cash paid McMillan & Vanbourk. Lond'n.	5 25	
July	8	169 Shares Edison Electric Light Co of Europe (Limited) at $80	13520 00	
"	15	Gold & Stock telephone royalty	50 00	
"	18	English telephone (per centage)	11656 71	
April	14	Cash to Lamp factory page 30		1200 00
			41600 91	12073 67

Thos A Edison.

			Dr	Cr
1881		Carried forward $	41600 91	12073 67
April	14	Cash to Edison Lamp factory (30)		850 00
"	31	Cable to London		13 50
July	8	Cash to Edison Lamp factory (30)		1250 00
"	13	Cash.		6760 00
"	18	" to Edison Lamp factory (30)		1000 00
"	"	Cash.		6000 00
"	"	" cheque		5656 71
			41600 91	33603 88
			33603 88	
July	19	Balance as per Statement. =	7997 04	
Dec 31	from July 31 inc.	Gold & Stock Tel. Royalty	550 00	
Aug.	1	English Telephone (per centage)	2200 00	
Nov.	10	" " " "	2000 00	
1881. Dec.		Paid to Lumière Electrique Fils	19 25	
Sept	10	Cash to Edison Lamp Co page 30		1000 00
Oct	11	" " " " " " 30		1000 00
Nov.	9	" " " " " " (30)		1000 00
"	"	" " Edison Mach. Wks.		2500 00
Dec	29	" " Fire Insurance -		200
1882 Feb.	15	" " D. H. Brandon, Extension 16 + 18 Spanish Colonies - Fr20 -	23 10	
Mch.	11	ditto Sets 28 & 5.	23 10	
"	7	Cash to Oldenburg. Hennich. 28	6 66	
Apl	13.	" " Brandon. extension to Spanish Colonies of Sets 24 & 25 -	23 10	
Oct	14	Cash received from Brandon for Set 18 extension Spanish Colonies as found it paid by Sewel also.		11 55
"	14	Cash Brandon Set 16 French.	63 05	
			12905 30	5531 55

Thos. A. Edison.

			Dr.	Cr.
1882.		Carried forward $	12905 30	5531 55
Jan	7.	Cash & Edison Mach. Works		1500 00
"	7	" " " Lamp Co. p. 30		1000 00
"	31	" " Cable		8 16
Feb.	28	" " Papers Menlo Park.		73
Mch	1	" " Edison Mach. Wks		750 00
"	31	" " Cable.		4 00
"	"	" " papers etc		1 69
Apl.	21	" " Edison Lamp Co. p. 30		1000 00
"	26	" " Edison Electric Light Co 50% on 73 Shares 10% on 4 Shares (60)		369 00
"	29	" papers etc		1 94
"	29	" Cables.		8 00
May.	1	Cash & Bonds of Edison Electric Lt. Co of Europe Limited $1500. at 50% (60)		750 00
June	5	Cash & Int. News Co		8 00
July	31	" " Papers Menlo Park.		1 10
Aug.	21	" " Puck.		5 00
Sept.	1	" " Edison Lamp Co page 30		3750 00
Nov.	14	" " Papers		42
Dec	5	" " Soc. Tel. Eng.		5 00
"	19	" " Sunday Sun		1 20
"	30	" " 10% of Edison Interest in Bergman and Co.		382 90
"	"	" " Edison Mach. Wks.		1661 03
"	"	" " Edison Indian and Colonial Electric Co Stock - 91 at £ exchange $488		2220 40
"	"	" " Sundry expense Oriental Telephone 20% =		135 75
"	"	" " " " Aust. & Central Light Co		7 12
			12905 30	25870 29

Thos A Edison

			Dr.	Cr.
1882.		Carried forward $	12905 30	25870 29
Dec.	30	Sundry Expenses of English Telephone 20% of total for 1882. (58)		68 16
"	"	Cash paid & 5% Share stock of Edison Co for Isolated Lighting (par)		5400 00
Jan.	1	2 per centage Canadian Tel. Royalty	400 00	
Apl.	18	2 Paris Exhibition (exc. S.A.B.)	234 58	
"	"	" " " Autographic telegraph	540 66	
Mch	31	Cash & Consul General for testimony in Siemens Edison R.R. Case	50 00	
Apl	27	per centage English Electric Lt.	3500 00	
May	1	6 months Interest on $500 Bonds of Edison Electric Lt Co of Europe (Lim.)	45 00	
"	11	per Centage English Light -	600 00	
May	22	Cash paid & Brandon for patent for lighting Cars by Electricity	46 00	
Dec	30	Cash from Edison Mach Works (profits)	4300 00	
"	"	Per centage English Electric Light	157 26	
"	"	Cash from 'Indian & Australian Light'	2660 33	
"	"	Cash. Edison Mach. Wks. Profits	6256 10	
"	"	Cash from Gold American Telephone	1597 63	
"	30	Gold & Stock Tel. Royalty 1882	1200 00	
			34543 18	31338 45
			31338 45	
1883				
Jan	1	Balance Edison Dr. $	3204 73	
"	1.	Canadian Tel. Royalty for 1882.	400 00	
"	30	Gold & Stock Tel. Royalty for Jan.	100 00	
Feb.	28	" " " " " " Feb.	100 00	
"	9	Proportion balance Eng. Tel Royalty (58)	514 75	
"	6	Ann. interest $500 Bond E.E. Light of Europe	45 00	
			$4364 48	

Mr. A. Edison
1883.

			Dr.	Cr.
		Carried forward	4364 48	
Feb	28	10% Dividend. 54 Shares Edison Company for Isolated Lighting	540 00	
"	"	Cash to Manning Freeman		11 20
Mch.	1	" " Mutual Life Ins. Co of New York		105 00
"	2	" " Stockholder 3% Subscript.		150 00
"	2	" " A.A.A.S. 1881. 1882.		6 00
"	21	" collected from Scribel. S.		48 50
April	1	" " " " "		48 50
"	3	" from Eastn. Cables & C.B.L. of C.S.	28 54	
Mch.	31	Telephone Royalty for March.	100 00	
"	24	10% $185.22 legal expenses paid D.M. & Co. on Scot. & Ch. Light		18 52
"	25	Annual due to Amer. S. Mech. Eng.		10 00
Apl.	30	Telephone Royalty for April	100 00	
May	30	" " " May	100 00	
June	30	" " " June $333.33	100 00	262 82
January	5	L. Saxes on Menlo Property		~~30 00~~ ~~3 45~~
"	31	French Telephone (1/2 of note for $629.49 in Bailey)		126 92 85
Sept.	4	Cash to Samuel French patent Edison & Tinney 146646 $10.		
		" " Belgian 55623 40.	29 12	
Aug.	31	Telephone Royalty July & August	200 00	
Sept.	10	" " Sept.	110 00	
Nov.	16	Gift to Mr. A. Edison		1000 00
Nov.	1	Telephone Royalty for Oct.	100 00	
Dec.	30	" " for Nov ~~+Dec~~	100 00	
Oct	17	Cable on a/c Lamp Co	9 00	
Aug.	23.	Telegraph Eng. 1883		5 00
"		Moving Plans Menlo Park.		5 00
			5871 14	2573 23

			Dr	Cr
1883			$ 5871 14	$ 2573 23
Aug	23	Weber bill running Plans		13 25
Sept	6	Postage & Sub. Stockholder		6 00
Oct	18	Glover Taxes at Newark.		7 73
"	26	Mutual Life Ins Co Mortg.		105 00
Nov	1	Mech. Engineers		10 00
"	16	M. Freeman taxes for 1883 Prop. at Menlo Park		33 00
				33 00
			5871 14	2748 21
			2748 21	
		Balance 10 Dec. 1883 in accord with Statement from Edison	$ 3122 93	
Dec.	31	G & S. Telephone Royalty	100 00	
1884 Jan	14	~~Acct Insull at Paris Exp~~		
Jan	31	G & S. Telephone Royalty	100 00	
1883 Dec	31	Canadian Telephone 1883.	400 00	
1884 Feb.	15	Cables for European Co Jan 31st as per letter of Insull Feb 15/84.	14 47	
Feb	29	G & S. Telephone Royalty	100 00	
March	31	" " "	100 00	
1883 Dec 31.		By cash to Cable.		16 50
1884 Jan	30	" " Safe deposit Co		15 00
"	"	" " Insurance		24 00
March	31	" " Mutual Life Ins Co		105 00
"	"	" " paid Batchelor in Europe ~~£4000~~		800 00
April	30	G & S. Telephone Royalty	100 00	
May	31	" " "	100 00	
"		10% Expense Johnson exhibiting Light in England. 1882.		132 02
			$ 4137 40	$ 1094 52

Thos A Edison

				Dr.	Cr.
1884		Brought forward -		$ 4137 40	$ 1094 52
June	3	By Check.	x		100 00
June	30	Q + S. Telephone Royalty	x	100 00	
July	1	By check			100 00
"	3	" "	x		1452 00
"	31	Q + S. Telephone Royalty	x	100 00	
Aug	4	By check.	x		100 00
"	18	" Check #23.	x	600 00	
"	31	Q. + S. Telephone Royalty	x	100 00	
Sept	1	Check.	x		100 00
"	30	Q + S. Telephone Royalty	x	100 00	
Oct	8	5 Shares Electric Light Co Stock at $100			500 00
"	8	200 Shares B.M.W. at same price Aug 25th 1884 as I paid for my first 200	x		16411 00
July	14	By 4% Dividend on 54 Shares Leal Stock at par.	x	216 00	
"	31	By 10% on Bergman T.C. revenue on $8857.96		885 79	
Aug	23	By 10% of $9680 received from Drexel Morgan T.Co. on 1/6 of Indiana & Colonial Electric Light Stock.	x	968 00	
Oct	18	Cash. Telephone Royalty for Oct.	x	100 00	
				$ 7307 19	$ 1985 52
					7307 19
	1884	Balance in favor of T.A.E. Oct 18th			$ 12550 33
Oct	25	Cash. from T.A.E. for Bergman			600 00
"	27	" by Bergman check.		600 00	
Nov	26	Check to M. Freeman (Mech. Pictor)			34 54
"	30	Telephone Royalty for November	x	100 00	
				700 00	13184 87

Thos. A. Edison

			Dr.	Cr.
1884 Dec.	1st	Carried forward	$ 700 00	$ 13180 87
				700 00
		Balance Dec 1st 1884		$ 12480 87
Dec	1	Cables sent which - in Europe	14 76	
		Tel. Royalty December	100 00	
		Rec'd from June Oct 31st		100 00
			114 76	12494 87
				114 76
1885		C.B. Balance Jan 1st 1885		$ 12380 11
Jan.	31	Tel. Royalty for Jan.	100 00	
"	"	" " " Canada	400 00	
Feb.	12	" " " Feb.	100 00	
"	10	Cash. 2 pay drafts.	166 22	
			766 22	$ 12380 11
				766 22
Feb	12	Bal. as per Statement from T.A.E.		$ 11613 89
Mch	31	Tel Royalty for Mch.	100 00	
Apl	30	" " " Apl.	100 00	
			$ 200 00	$ 11613 89
				200 00
				11413 89
May	1	10% of $33.244 20/100 amount credited to Edison on books of O.B. Light Co. on a/c of claim of $100,000 in Edison's contract with them 4 recognized by them in agreement Apl 23 1885 Batchelor being entitled to 10% of said 100000 (as it is paid) under sealed agreement with Edison.	3324 43	
			3324 43	$ 11413 89

Thos. A. Edison –

			Dr	Cr
1885		Brought forward	$3324 43	$11413 89
May	11	By 5 Shares stock E.C. Light Co. returned out of what Batchelor got & Edison –	455 57	
	11	Balance due E.C. Light Co. on 13 Shares stock for C.B. & 4 shares to R.B.		381 00
	22	Telephone Royalty for May	100 00	
			$3910 00	$15223 89
			3910 00	
		Balance as per Statement		$11313 89
June	2.	Cash.		100 00
	11	Cash.	994 14	
		Int on E.I.Co. note & I.A.E.	5 86	
		Note of E.I.Co. & I.A.E.		1000 00
June	29	Cash.		100 00
		Telephone Royalty for June	100 00	
July	1	" " " July.	100 00	
	13.	Release as per receipt this day given –	$11313 89	
			$12513 89	$12513 89
Aug.	6	Cash. Tel Royalty for Aug	100 00	100 00
"	31.	" " " " " Sept	100 00	100 00
Oct	1.	" " " " " Oct.	100 00	100 00
Nov.	1	" " " " " Nov.	100 00	100 00
"	28.	Tel Royalty for Dec.	100 00	
"	"	Check. T.S. Insull	200 00	
"	"	Check. of I.A.E.		300 00
1886 Jan.	1.	Telephone Royalty Jan.	100 00	
		" " Canada	$400 00	
			1200 00	$700 00

Thos. A. Edison

			Dr	Cr
1886.			$1200 00	$700 00
Jan	9	Cash		100 00
"	18	" Canadian Royalty		400 00
Feb.	1	Tel Royalty & Check.	100 00	100 00
Mch.	1	Tel Royalty	100 00	
"	2	Cash		100 00
"	18	Cash. (loan)		3000 00
"	24	Cash (check of E.M. & Co.)	3000 00	
Apl	2	Tel Royalty due & Check	100 00	100 00
May	3.	Payment to Brewer & Jensen	24 12	
"	1	Tel. Royalty due & Check	100 00	100 00
June	1	Tel Royalty due & check	100 00	100 00
July	1	Tel. Royalty due.	100 00	
Aug	1	" " "	100 00	
May	15	Insull check.		24 12
Aug.	2	Check.		200 00
Aug	30	Tel Royalty due	100 00	
Sept.	30	" " "	100 00	
Oct	30	" " "	100 00	
Nov.	3	Cash		300 00
			$5124 12	$5124 12
"	19	100 Shares of E.C. for Europe 6 Check	600 00	600 00
Dec	31	Tel. Royalty for Nov & Dec	200 00	200 00
1887 Jan	3	Cash		400 00
"	13.	Cash.		
"	1	Canadian Royalty	400 00	
Feb	1	Royalty & Cash for Jan.	100 00	100 00
Mch	1	" " " Feb.	100 00	100 00
Apl.	1	" " " March	100 00	
	1			

(1897) The A Edison

			Dr	Cr
		Carried forward		
Apl.	7	Cash		10000
May	1	Royalty as per Agreement	10000	
"	3	Cash		10000
June	2.	Cash Royalty for May	10000	10000
"	9.	5505 Shares of Edison Lud. Eng. Cal. Light & sold of which after ded. other sh share was	655 90	
Jan	30	Royalty for July June	10000	
Aug	1.	" " Aug. July	10000	
Sept.	1	" " ~~Sept~~ Aug	10000	
"	1	Check		30000
Oct	1	Royalty Rel for Sept	10000	
"	15	Cash		10010
"	31	Royalty for October	10000	
Nov.	2	Cash		10000

30

The Edison Lamp Co.

				Dr.	Cr.
1881 Dec	18	Assessment	page 3.	$ 1751 14	
1881 Jan	26	"	" 4	1500 00	
1881 Feb.	22	"	" 4	1200 00	
1881 Apr	12	"	" 5	850 00	
1881 July	8	"	" 5	1250 00	
1881 "	15	"	" 5	1000 00	
1882 Apr.	26	"	" 6	1000 00	
1882 Sept	7	"	" 6	3750 00	
1881 "	10	"	" 5	1000 00	
1881 Oct	11	"	" 5	1000 00	
1881 Nov.	9	"	" 5	1000 00	
1882 Jan	27	"	" 6	1000 00	
		Balance Dec 31st 1883.		$ 16,301 14	
		Interest $1751.14 at 6% 36½ months		319 55	
		$500 at 6% 35 months		262 50	
		$1200 at " 34 "		204 00	
		$850 at " 32½ "		138 12	
		$1250 " " 29¾ "		187 00	
		$1000 " " 29½ "		148 00	
		$1000 " " 26½ "		101 00	
		$3750 " " 15¾ "		295 00	
		$1000 " " 27½ "		137 50	
		$1000 " " 26½ "		132 50	
		$1000 " " 25¾ "		128 75	
		$1000 " " 23¾ "		118 75	
1884 Dec	31	$18474 for 1 year at 6%		1108 44	
1885 Mch 1	28	$9502 for 2 month at 6%		190 02	
Mch.	4	Sold ½ interest 5%.			14250 00
"	5	5% Dividend for 1884			
"	14	Cash			1250 00
				$ 19,778 07	$ 15,500 00

Adam 75%
Chas Batchelor 10%
A. H. Upton 10%
E. H. Johnson 5%
Dec 1880. 100

1884 Company formed by share 10 Shares of $2500 each.
Coll. 5 " Mch 4 1885

		Company Brought forward 1886	$ 19778 07	$ 15500 00
		Capital $ 20,000 00		
			15500 00	
1886		Balance Mch 1886	4278 07	
Mch.	1st	Int at 6% for 1 year	256 68	
May	31st	Int at 6% for 3 m. to June	64 17	
1885				
Oct	1	Dividend 1½%		187 50
1886 Jan	18	" 2%		250 00
" Oct	1	" "		250 00
			$ 4398 92	$ 687 50
			687 50	
		Balance June 1st 1886.	$ 3711 42	
June	30	Interest at 6% for one month.	19 58	
July	1st	Check		250 00
			$ 3730 99	
			250 00	
		Balance July 1st 1886.	$ 3480 99	
Oct	1st	Int at 6% 3 m	55 21	
		Dividend		250 00
			$ 3736 18	
			250 00	
		Balance. Oct 1st 1886	$ 3486 18	
Jan	1st	Int at 6%	52 29	
		Dividend		250 00
			$ 3538 47	
			250 00	
			$ 3288 47	

Eaton Land Co

			Dr	Cr
			$3280 47	
Mch.	1st	2 m interest at 6%	22 88	
"		Dividend		125 00
			$3311 35	
			125 00	
			$3186 35	
Apl.	1st	1 m Int. at 6 & Dividend	13 97	$125 00
			$3075 32	
			125 00	
			$3075 32	
May	1st	1 m Int. at 6% & Dividend	13 40	125 00
			3092 72	
			125 00	
			$2967 72	
June	1	1 m Int & 6% & Dividend	14 84	125 00
			2982 56	
			125 00	
			$2857 56	
July	1	1 m Int at 6% & Div.	13 54	125 00
			2771 10	
			125 00	
			$2646 10	
Aug	1	1 m Int at 6% & Div.	13 23	125 00
			2659 33	
			125 00	
		Bal. Aug 1 1884.	2534 33	
Sept.	1	1 m Int at 6% & Div.	12 68	125 00
			2547 01	
			125 00	
			$2422 01	

1884.			Dr	Cr
			2422 01	
Oct.	5	Int one month & div.	12 11	125 00
			$2434 11	
			125 00	
			$2309 11	

The Edison Machine Works

			Dr.	Cr.
1881 June	29	To Cash. Debited on Edison a/c	$ 1000 00	
July	13	" " " " " "	3000 00	
"	18	" " " " " "	6000 00	
Nov.	9	" " " " " "	2500 00	
Dec	31	" " " " " "	1500 00	
1882. Jan	21	" " " " " "	750 00	
Dec	30	" " " " " "	1661 03	
"	"	By Cash credited on Edison a/c		10556 10
Aug	7	" Profits	3800 00	
Dec	30	" "	500 00	
"	"	" "	6256	
"		To Capital a/c		16411 03
		Made into a Company $200.000		
		2000 Shares $100 each		
		I received 200 Shares 15 Feb. 1884		
Aug. 1884	8	Bought from I A E. 200 shares.	16411 03	
Oct	8	5 Shares Electric Lube & Stock		750 00

I A Edison 90%
Chas Batchelor 10%

1884			Dr.	Cr.
June	11	Expenses. (Worcester)	$ 10 00	
	21	Cht. Young a/c	32 65	
	25	Calls (Arc light Exp.)	4 90	
July	7	Check (Damar & Pell)	272 46	
"	11	" Williams a/c	115 50	
"	19	" Adams Exp.	91 75	
"	"	Telegram	45	
"	11	By check.		115 50
	12	" "	527 71	50 00
				165 50
"	16	Cash to McLean	5 00	
"	21	" to Lion	5 00	
"	24	" to Bergen	5 00	
"	31	Check.		75 00
			887 71	240 50
			240 50	
		Balance Aug. 1st 1884	$ 347 21	
Aug	4	Check. for cash given to Shaff, Co.		92 00
"	16	Cash to Lion 5 Cash B.B 3	8	
"	16	Check Cash.		25 00
"	19	Checks "25 "26	164 93	
"	19	Check.		332 21
"	30	Expenses of Lab & Lib. Newburg	9 00	
		Check. I Mark 88 Co	205 69	
		" At Mut Ins Co	20	
Sept	1	Check. $250 & $175		425 00
"	5	Checks	100 00	
			170 64	
	8	Cash to Pow guardian	10 00	
"	9	Check.		890 00
"		Cash to petty Cash.	8	
			$ 1643 47	$ 1754 21

Edison Machine Works

1884			Dr.	Cr.
		Carried forward	$1,643 47	$1,754 21
Sept.	11	Cash.		20 00
	15	"	8 00	
	16	"	5 00	
	17	Check.		700 00
"	20	Cash	20 00	
"	22	Check. $110 " $11 65	81 65	
"	23	"	5 00	
"	26	"	300 00	
"	29	"		350 00
	29	" Bergen.	50 00	
Oct.	1st	Sundries.	1 33	
"	4	E. M. W. check. bl. cash		6 00
"	6	Expenses. Newark, N.J.	1 80	
"	8	5 Mates Electric Lube & Stock at $150		
"	10	Check to E. & Garvin		750 00
			172 62	
"	11	Check bl. E.M.W.	100 00	
"	11	Check.		100 00
"	13	Cash $25 $100	5 00	
"	15	Bergen Rel. bl.	125 00	
	15	Check.		100 00
"	15	Branner. $9215 " Cash check cp. 50	142 15	
"	16	Cash. 32.61 " Cash. 6.95 "	42 61	
"	17	2 Note Isolated $500 each 2 months 6% 505.49	3288 46	800 00 505 49
Aug	4	By mistake in charging.	92 00	
July	31	Cash $10 Aug. 30 $26.35		36 35
Aug.	16	Mistake in charging.	25 00	
Sept	11	" " "	20 00	
			3525 46	4877 09

1884			Dr.	Cr.
		Carried forward	3525 46	4877 09
Sept	15	Cash.		39 51
Sept	7	Isolated Note		1500 00
"	22	" "		1500 88
	26	Ohio E.E.S. Co.		754 32
	29	" " " "		757 88
	30	Cash.		70 00
Oct	8	"		42 13
"	7	Note Isol. Co.		1700 00
July	16	error.		5 00
Aug	27	Cash.	10 00	
"	30	Salary.	250 00	
"	30	Interest on note	49 16	
Sept	10	Cash.	5 00	
"	15	Error.		8 00
"	23	Cash	7 00	
	29	"	2507 89	
	"	"	2050 00	
"	30	Salary	250 00	
Oct	8	Correction entry	42 13	
	25	Note given T.A.E.	500 44	
"	8	Cash	1674 50	
"	"	Int	25 50	
"	18	"	10 05	
"	20	Cash	32 50	
"	22	Cash	141 95	
"	25	"	1244 83	
"	"	"	200 00	
"	"	Int Isol Note.	15 17	
			12582 58	11299 75

			Dr	Cr
			12582 58	11298 75
Oct.	25	20% of $200 for Indicators	40 00	
	27	Cash	196 40	
	28	"	100 00	
		"	100 00	
Nov	14	"		5 00
	11	"		1 10
	25	"		20 00
	28	"		396 00
	25	Int. Note		1300 00
			$13018 98	$13201 25
				13018 98
Oct	28	Balance as per E M W's Statement		182 26
"	29	Check to Lawrence & Hackman	46 32	
"	31	Collection on OBC Co note	75	
Nov	1	Check of S T & W in mind to E M W.	350 00	
"	3	Cash & petty Cash Bank alt Draft	8 82	
"	5	" Check. 99. for note.	1000 00	
"	5	Note at 6 month due. May 8. Int.	35 00	1000 00
"		Check to Mean	30 00	
		" " Carraher & Co	156 51	
"	7	Telegrams.	50	
"	9	Check to Lund	50 00	
"	"	Check E M W.	1250 00	
		Interest 93 days.	22 60	
"	"	Indicator Co note 90 days.		1250 00
				22 60
"	12	Check.		20 00
"	13	Check Hubbard $500, Aff Brown 52.17	553 17	
	13	"		553 17
	15	Chilian draft $150 = $714		714 00
			$3773 67	$3899 43

Ohmer Machine Works.

			Dr	Cr
1884		Brought forw'd	$3773 67	$3899 43
Nov.	15	Check. 97.	X 650 00	
		" 98 Brewster. Rect. $75	X 150 00	
	15	Check.	X	150 00
"	27	Expenses to Cumberland Md.	X 35 00	
"	29	To Check.	X 197 00	
	29	To Check.	X	50 00
		To Note Foster	X	300 00
			$4805 67	$4299 43
			4299 43	
		Balance Dec 1st 1884	$506 24	
Dec	2	Check. 106.	X 350 00	
		by cash check.	X	350 00
"	3	Check to Lord & Taylor.	X 10 10	
		" " Bricken	X 21 00	
"	4	Collection on OBC & Co accepts.	75	
		Check 3 " Expense ~~250~~ 3125	X 5 50	
		Cash.	X	4 00
		Note of Indicator Co.	X	1200 00
		Check. 112.	X 1186 00	
		Interest chg on note	14 00	
		Check to Hall	X 16 76	
"	5	" 114 E M W.	X 300 00	
"	"	" from E M W.	X	300 00
"	8	" " "	X	300 00
"	8.	Check Gleaum 45.25 " Lundy 15.00	X 60 25	
	12	Note of Ind. Co 1158 77	X	1158 97
		To disct on same taken by Bank.	X 12 36	
		Check of Lundy's	X	15 00
			$2486 95	$3327 97

See Page 236

Societe Industrielle et Commerciale Edison

1882			Dr		Cr	
Feb.	17	Erreur comptée par bordereau Fes. 23 9bre 1881 Compte F 20 au lieu F 20			11	80
Mai	1	Depeche a New York.	21	35		
"	2	Payé facture			142	15
"	8	Depenses en Angleterre	180	00		
"	20	Payé carte de visite			24	50
"	22	Frais de voyage à Manchester	126	00		
"	29	Remise especes.			500	00
June	6	" "			200	00
"	7	Depenses pour rechercher machine	15	00		
"	"	Remise en espece			1000	00
July	13	" " "			500	00
"	22	" " "			300	00
Aug	4	payé Allez freres			19	10
"	5	Remise en espece			300	00
"	9	" " "			500	00
"	10	Divers frais et poste à espèce	422	00		
"	12	Souscription Schmoll.			50	00
"	16	Remise en espece			500	00
"	22	" " "			500	00
Sept	9	" " "			200	00
"	12	Divers Obs (frais de transport)			201	60
"	30	Remise en especes.			500	00
Oct	12	" " "			2037	20
"	16	" " "			500	00
"	17	Remboursement 5 obs 7 payment Sehiguo	201	60		
"	25	Main d'oeuvre for Sehiguo			177	95
"	30	Depenses Angleterre. Compte. Doc, Obs. C.	495	00		
Dec	15	Remise en especes			1000	00
"	20	" " "			120	00
			1460	95	9562	30

1882			Dr		Cr	
		Carried forward	1460	95	9562	30
Dec.	22	Remise en especes			1000	00
"	30	Honoraires de l'Fev. Mars à F 1250	13750	00		
April	14	Remise en espece			1000	00
"	19	" " "			1000	00
			15210	95	12562	30
			12562	30		
1883		1883 Jan 1st Balance	2648	65		
Jan	5	Cash. Remise en espece			2648	65
Feb.	2	" " " "			500	00
"	6	" " " "			750	00
"	24	" " " "			500	00
"	26	" " " "			1000	00
Jan	31	Honoraire pour Janvier	1250	00		
Feb	28	" " Fevrier	1250	00		
Mch	30	" " Mch	1250	00		
Mch	31	Cash Remise en espece			500	00
Apl	2	" " " "			500	00
May.	2.	" " " " N.B.			1075	95
June	2.	" " " "			1245	40
June	1	Honoraire pour Apl. et Mai	2500	00		
Apl	24	Facture of Rothman for Electrolet Verin F 160 + freight 4.40			164	40
"	17	Secours à une malade			10	00
June	29	Cash Remise en espèce			1250	00
June	30	Honoraire pour mois de Juin	1250	00		
July	25	Cash.			500	00
"	25	10 Swan lamps at 6/.	63	00		
"	30	Honoraire pour juillet	1250	00		
"	31	Cash.			763	80
			11461	65	11497	85

		Dr.	Cr.
1883.	Carried fwd.	11461 65	11407 85
Aug. 20th	Cash		500 00
Aug. 30th	"		500 00
" 31	"		177 00
" "	Honoraire pour mois d'août	1250	
Mai. 11	prudence pour l'année 1883.	1616 65	
June 9	Facture echantillons pour de R.H.J.	447 40	
Feb. 10	Depeche à Liverpool		4 60
June 11	Retour de prudence allouée pour 1883		1616 65
" "	Compte frais d'appel		22 50
" 20	Retour permis en espece		497 40
July 12	Acquit Palmer & Horne		2670
Aug 1	Acquit Quainecie		58 00
" 8	Abonnement Journal Attorney Gen.		15 00
Sept 16	Cash		600 00
" 30	Honoraire de mois de septembre	1250 00	
Oct. 1	Cash		650 00
" 13	Cash		600 00
" 24	Cash		500 00
Nov. 1	Honoraire de mois Octobre	1250 00	
" 22	Cash		1000 00
Dec 1	Honoraire de mois Novembre	1250 00	
" 5	Cash		250 00
Dec. 30	Honoraire de mois Decembre	1250 00	
" 14	Cash		800 00
" 28	Cash		324 80
	Escomptes Oct. Nov.		87 50
24	Facture pour emballage		8 20

Le Electric R R & the O & S. Services

1895			Dr.	Cr.
Mch	30	Ls Services for month of Mch	100 00	
Apl	13	By Check.		100 00
Mch	1	Services for month of Feb.	100 00	
Apl.	17	Check		100 00
Apl.	30	Ls Services for Apl.	100 00	
May	24	Check.		100 00
June	1	Ls Services for May	100 00	
	12	Check		100 00
		Ls Services for June. July Aug.	300 00	
Aug.	26	Check		200 00
Oct.	21	Services for Sept	100 00	
		Check		200 00

Telephone: United States – I am entitled to 20% of the moneys received by Thos. A. Edison –

			Dr.	Cr.
1878		Contract was made between Edison and the whereby Edison receives $6000 per year during the life of the Patents. I am entitled to 20% of these sums. The money is collected by him and credit is given me on my account with him –		
Dec	31	Royalty due June to Dec inc. $	700.00	
"	"	Cash received		700.00
1879 Dec	31	Royalty due 1879 $	1200.00	
" "	"	Cash. recd		1200.00
1880 Dec	31	Royalty due 1880 $	1200.00	
" "	"	Cash recd		1200.00
1881 Dec	31	Royalty due 1881 $	1200.00	
" "	"	Cash. recd		1200.00
1882 Dec	31	Royalty due 1882 $	1200.00	
" "	"	Cash recd		1200.00
1883 Dec	31	Royalty due 1883 $	1200.00	
"	31	Credited on A/c T. A. Edison		1200.00
1884 Dec	31	Royalty due 1884 $	1200.00	
		Credited to A/c T A Edison		1200.00
1885 Dec	31	Royalty due 1885 $	1200.00	
		Credited on A/c T.A.E.		1200.00

The Railway Telegraph & Telephone Co

1885			Dr	Cr
Feb. 23		Recd. 250 Shares from S.O.E.		
May 16		Surrendered 12 Scrancy.		
		238 Shares balance.		
Oct	5	Turned in 10% bearing 213 Shares		
Nov.	12	50 Shares at £15.50		£775.00
	13	50 Shares at £19.39		969.50
1886 Feb	20	10 Shares at (Turned) £20.50		205.00
Mch.	8	10 Shares at Turned £25.		250.00
May	26	30 Shares to Dec. less comm. £16.50		485.10
June	18	38 Shares to Dec. less comm		494.00

238 213 25 13/3

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Samuel Insel In a/c

			Dr	Cr
1886				
Jan	1st	To balance a/c on sale of C.P.R.	350 00	
Nov.	11th	Commission on sale of 50 N.P.R.		10 00
1886 Feb	23.	Commission on 10 R.R. Sel. at 2.50		25 00
Mch.	8	Commission on 10 R.R. Sel. at 2.50		25 00
May.	26	30 Share R.R. Sel. at 14	420 00	
"	"	Check.		420 00
"	"	Commission on 15 Shares.	1	15 00
June.	18.	35 Shares R.R. Sel. for Cash	490 00	490 00
			1261	1070 00
			1070	
		Carried to new Ledger folio 15 1887.	$185	

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Telephone. France.

Brevets of T. A. Edison

			Dr.	Cr
1879.		I receive 20% of the moneys received by Thos. A. Edison. I pay 20% of what expenses that may be incurred		
Jan	1	Credit on Edison books a/c Cash from patents $		1134 71
1881 Jan	4	" " " " "		972 53
" Feb	18	" " " " "		1942 86
1883 Jan	1st	Paid $\frac{1}{5}$ of note of J. F. Bailey debited on a/c and Edison $	1269 83	

Telephone:- (England) Gt Britain — Edison's Patents

			Dr.	Cr.
1879.		I am entitled to 20% of all moneys received therefrom by Edison and I am responsible for 20% of the expenses incurred after		
May	23	Credited on Edison a/c		1631 78
Nov	24	" " " "		4000 00
1880 July	19	" " " " (2)		2068 16
" Dec	13	" " " "		2000 00
1881 Jan	26	" " " "		965 00
" Mch	1	" " " "		825 00
" May	12	" " " "		2000 00
" July		" " " " Royalty "Glasgow		335 00
" "	18	" " " "		11656 71
1882. May	6	Authorized by Edison to collect from Gouraud my share of United Reversionary Interest £745.7.0 —		3635 00
1881 Aug	1	Credited on Edison a/c		2200 00
" Nov	10	" " " "		2000 00
1882 Dec	30	Debited " " "	68 16	
1883 Feb	9	Proportion Balance Eng. Tel. Royalty as per Statement of Edison a/c (7)		514 78

The Edison Electric Light Co. New York.

				Dr.	Cr.
1879.		I commenced & helped Edison in August 1878 with the understanding that I should have an interest in what he got from it — Jan 23 1879 this was settled between us as he gave me 130 shares of the Stock of the Edison Electric Light Co of New York and telling me I should have 10 % of all royalties received by him from the use of his patents by this Company. —			
			$ Bl. Sold		
1879 Jan	23	Rec'd from Edison	130		
" Dec.	23	Sold shares at $100	10		$ 1000.00
" "	24	" " at $2000	4		8000.00
" "	"	" " at $2500	1		2500.00
1880 June		" " at $600	1		600.00
July	20	" " " "	2		1200.00
		Gave McLaughlin	2		
1881 Jan	19	Capital raised 66 for. (Rec'd)	66		
" "	"	Sold shares at $962.50	11		10587.50
" "	"	" " " $1012.50	10		10125.00
1883		Assessment on 4 Shares $1.00		200.00	
April	26	" 50% 73 Shares (116) 6	72	3650.00	
		" 2nd on R.B. shares 10% 6		400.00	
1883 Sept	19	Power of Attorney and sales for Edison & act for me 73.60		15.00	
				$3908.00	$43012.50

Edison Patents.

				Dr.	Cr.
1886		Carried forward Bl Sold		$3908.00	$43012.50
Nov	18.	10 Shares at $140 co.	10	1400.00	
Dec	25	20 " at 130 co.	20	2600.00	
1887 Jan 11		Div off deposit vault.	RB. 12		
1887 "		" " " "	CB. 214		
"	17	54 Shares Isolated	RB. 40½	540.00	
"	17	Bagh & Upton 25 at 140	25	3500.00	
June	24	" Wallace 60 at 225	60	13500.00	
		Cash & 2d ass. in Edison settlement		3650	
		Interest to July 1st 1884 6% July		2200.00	
				36150.00	43012.50
					36158.00
		Balance. Nov 1st 1887.			$6854.50

The Edison Electric Light Co. of Europe (Limited)

					Dr.	Cr.
1881		I received from T. A. Edison one thousand shares of his stock and a promise of ten per cent in all royalties that should accrue to him from the patents held by this company in return for my time and labor given in experimenting on incandescent lighting the said experiments to continue until Edison's system of lighting by incandescence was declared a success —				
Jan.	1	Cash.				1500 00
July	10	Received Stock	1000			
"	"	Gave McLaughlin		50		
"	13	Sold 169 at $90		169		15520 00
1882 Dec	23	" 25 at $105		25		2625 00
1882 Jan	2	Bought 15 at $70	15		1050 00	
" "	5	Sold 15 at $90		15		1292 16
" "	6	Bought 20 at $75	20		1500 00	
" "	28	Bought 30 at $69	30		2070 00	
1884 May 11		Sold 80 at $10		80		810
1884 Nov. 18		Sold 250 at $6.50		250		
" "		Sold 100 at $6		100		

Iron Commutator Dynamo & Motor B. & W.

			Dr		Cr	
1885						
June	27	Cash paid by B.B. & D & Seely for application for patent	65	00		
1886 Dec.	3	" paid on application	28	85		
Apl	1	Final Govt fee	20	00		
			$113	85		
June	30.	Int at 6% 2 m.	1	41		
		Dec 31st 1886.	115	26		

Walter's Transformer D & Motor.

			Dr		Cr	
1886		Assigned ½ to Batchelor				
May.	1	D & Seely for application	50	00		
		1st Gov. fee	15	00		
			65	00		
June	30.	Int at 6% – 2 m		65.		
Nov	3	Final fee & assignment	25	00		
			90	65		

Patent. New connections for Commutator

			Dr	Cr
1885				
Nov	14	Cash to Dyer & Lesley.	45 00	4
Feb 1886	18	Final fees in U.S.	20 00	
		Canadian Patent ✓	60 00	
		French Patent ✓	125 00	
			$ 250 00	
June	30	Interest to date 6%. p.a. Dec 1886	5 49	
			255 49	
Feb	15	2nd Ann in France ✓	21	

Patent – Insulation of Armature.

			Dr	Cr
1886				
Jan	16	Armature Insulation		
		preparing appl.t 40 opp fees 15	$ 55 00	
Apr	12	Prosecuting application	10 00	
		Final Govt. fee	20 00	
		Washington & Washington	5 93	
		French patent ✓	125 00	
		Canadian patent. ✓	65 00	
			$ 280 93	
June	30	Interest to date 3 m. at 6%	4 21	
		Dec 1886	285 14	
Feb	15	2nd French Ann ✓	21 00	

The Spring Valley Hydraulic Gold Co.

				$ Dr	$ Cr
1880.					
Mch.	17	McLaughlin gave me.	150		
Sept.	23.	Sold 100 at 3/3	100		300 00
		Dividend on 50 shares			12 50
Oct 31st	1884	Sold 50 at 4/			50 00
		Commission on same		1	

Patent – Keying Armature Plates

			Dr	Cr
1884				
Feb	15	Preparing Application	55 00	

(~~Stock~~) Patent of M. C. Smyzalo 1/2 Assign & Ofs.

			Dr	Cr
1886				
Feb.	18	Cash by Check from C. M. H. + Charged to 215	50 00	

The Edison Telephone Co of Europe Stock

			Dr	Cr
1880		For work done keeping T.A. Edison in experiments he gave me twenty four shares of his stock		
July	29	received from T.A.E. 25		

Johnson's lamp patents – Assigned to Edison in France, Italy, Germany

			Dr	Cr
1886				
April	13	French patent	125 00	
		German patent	150 00	
		Italian patent	200 00	
		Austrian Papers	30 00	
		Reduction on aust. papers		5 00
			505 00	
			5 00	
		Dec 31st 1886.	$500 00	

Canadian Telephone (Royalties)

			Dr	Cr
1880-		Agreement with T. A. Edison is as follows:- he gives me twenty per cent of all money accruing to him from his patents on telephones in Canada		
Dec	31	Edison made 7 years contract with at $2000 per year. 20%.		400 00
1881 Dec	31	20% of $2000		400 00
1882 "	31	" " "		400 00
1883 "	31	" " "		400 00
1884 "	31	" " " Cr. in my Cf not yet		400 00
1885 "	31	" " " " " " "		400 00

Panama Canal (Stock)

			Dr.	Cr.
1880			$	$
Dec	1	6 Shares Stock 1st Installment	24 00	
"	24	" " " 2d "	96 00	
1881 Dec	27	" " " 3d "	117 20	
1882 Oct	12	Interest Fr 33.05 less charges Fr 7.25 Fr 31.80 @ 5.21		25 34
Dec 11th		Int to date at 6%	40 84	
			$278 04	
			25 34	
		Balance Jan. 1st 1886	$252 70	

The Treasure Box Mining Co. Stock

				$ Cr.	$ Cr.
1880					
Sept	17	Cash. for Preliminaries		200 00	
Dec	27	Cash from Bonus after paying assessment on South Table Mountain property			50 00
1882					
March		Rec'd Stock	1500		

The Miocene Mining Co. California (Stock)

				Dr	Cr
1881					
June	20	Rec'd from McLaughlin 1500			
"	21	Gave C.L. Dean.	25		

The Edison Ore Milling Co. Stock

			Dr.	Cr.
1891			$	$
June	20	Edison gave me for experimenting on his process for him one hundred shares		
		100		

Drexel Morgan & Co New York — Deposit A/c

1883.			Dr. $	Cr. $
Jan.	1	Balance Deposit of C. Batchelor	2166 07	
"	2	Check. R. C. Backer 111.		45 25
"	27	Waites from Paris Gov. Bnd warrants	442 50	
Feb	7	Check. 15 Safe deposit Co N.Y.		15 00
"	17	" 16 S. A. Edson. Secret A/c		97 10
Mch.	20	" 17 Montgomery National Bank Norristown -		500 00
May	3	" 18. S. Sunn.		200 00
"		" " "		300 00
Aug.		Red back check 17 (Cost in Knox)	500 00	
Oct	2	Draft D. M. & Co. New York £200		960 38
			3108 57	2120 73
			2120 73	
		Bal Jan 1884	987 84	
May	24	Checks.	764 00	
June	3	"	550	
	6	"	197 64	
June	20	Checks. 1, 2, 3, 4, 5, 6, 7. for E.M.W.		127 88
"	"	" 8. E.M.W.		32 65
June	27	Check 9. Draft for R. B. £300 Fr		290 21
July	3	" 10 Draft for J. D. R.		248
"	3	Telephone Royalty Check	100 00	
		Gov. 4%	220 00	
	6	Check 11 S.T.P.		272 46
	6	Check. S.O.B.	1452 00	
	12	Check.		115 50
	12	" 14 & 15. for W. Dan & Sewell		75 00
	14	" 16 F. W.C.		8 00
	18	" 17 Adams Exp		91 75
			$ 4271 48	$ 1328 45

1884			Dr. $	Cr. $
		Carried fwd	4271 48	1328 45
July	24	Check #18 Rogers.		100 00
"	29	" #19		50 00
Aug.	1	" #20 H. M. Cain		12 00
"	"	21 Geo Tatem		80 00
"	11	22 H. P. & Ryer.		65 60
"	18	23 F. M.c.L.		327 00
"	19	24 S. A. C.		600 00
"	"	25 E. M. W.		160 00
"	"	26 E. M. W.		493
		Check.	625 00	
"	25	Check to C. B. #28. (Cy rent)		100 00
"	29	Check to O. P. #29		50 00
"	29	M. Life Ins Co. #30		105 00
"	30	C. L. Cooke #31		69 75
"	30	P. Mail S.S. Co. #32		205 69
		Atlantic Mut. Ins Co. #33		20 00
			$ 4896 48	$ 3269 42
			3269 42	
			$ 1627 06	
Sept.	2	Checks. #32. 21, #250 — #115 —	75 21	
		Undrawn draft £300 —	288 46	
"	3	Check. #34. J. H. Jenck.		16 50
"	4	90 days draft from Stewart & Co	360 00	
"	4	Check #35 E. M. W.		360 00
"	6	Check #36 E. M. W.		700 00
		" #37 E. M. W.		170 64
		" #38 C. B.		100 00
"	13	Check. $880, $100, $202.50.	1182 50	
	17	" E. M. W.	700 00	
			$ 4915 23	$ 1347 14

Drexel Morgan & Co

			Dr	Cr
1884		Carried forward	4915 25	1347 14
Sept	17	Check. in number, Chas B.		100 00
"	18	Bon. disp. F 12,337 7/8 at 5 1/8 F		2566 07
"	19	Check. #40 Chas B.		50 00
"	22	" #41 J Evans		40 00
"	"	" #42 Abbot Bros		41 68
"	23	" #43 Drexel M & Co.		5 00
"	23	" #44 Chas B.		50 00
"	25	#45 E.M.W.		300 00
"	29	#46 Bergen.		50 00
"	30	Cash from Bonds 4000 at 119 7/8	4795 00	
"	"	Check. #47 Chas B.		2050 00
"	"	" #48 E.M.W.		2507 89
Oct	2	" #49 C.B.	9189.78	100 00
"	3	" #49 Drummond		5 00
		#50 John Jackson Rec.		7 61
"	4	Check. $350 E.M.W. $220 Gov.	570 00	
"	6	Check. #51 Sabatt		30 00
		" 52. Met. Tel. Co		12 60
		" 53 Bergen.		30 00
"	7	Gov int. $20. C.A. Young $20 Rogers $200	240 00	
"	8	Cash for 2000 4½ at 119 7/8	2397 40	
"	8	E.M.W. #54		167 450
"	"	Check 55 J. C. Lowlemin		20 00
"	9	Check. 56 Stone & Hart		90 60
"	"	" 57 C.B.		75 00
"	10	" 58 Compton B.S.Co		25 00
"	"	" 59 Gavin E.M.W.		172 42
"	11	" 60 E.M.W.		250 00
"		61 E.M.W. (credit Chk.)		100 00
			$12,917 63	$11,712 51

			Dr	Cr
		Brought forward	$12,917 63	$11,702 51
Oct.	15	Check. #62 Bergen.		50 00
"	"	" #63 "		100 00
"	"	" #64 Met-Tel. Co		14 80
"	"	" #65 N.Y.C. + H.R.R.R.		51 60
"	"	" #66 Lane.		15 00
"	"	" #67 Compton		35 00
"	"	" #68 Brandt.		92 15
		69 Bergen.		50 00
				12,111 06
"	16	#70 C.B.		100 00
		71 Michael Harris		32 61
	16	Check. Bergman & Co.	350 00	
		72. C.B.		100 00
	17	73 E.M.W.		895 00
"	16	Cash check. 74 Wojcowski		32 50
	20	Check. 75. Chapman		141 95
"	25	$5000 Gov. 4½ at 120 7/8	6037 50	
"	"	Check. 76 E.M.W.		1254 83
"	"	" 77 E.M.W.		200 00
"	"	78 Ford 79 C.B.		100 00
"	"	Check 80 B Stff Mfg Co.		1365 00
"	26	Check. 80 Am. B T Co Co. E.M.W.		196 46
28		" 81 Bergen E.M.W.		100
28		" 82 Lemmer E.M.W.		100
29.		" 83 B Stff Mfg Co. (Compn.)		38 88
30		84 Lawrence & Co E.M.W.		46 32
31		" 85 Hastings (exchange)		300 00
"	"	86 Hutchinson for cash.		600 00
"	"	87 H Merritt for rent		133 33
Nov.	1	Accept. O B B J. Co $154.32 Bro 7/8	753 57	
			$20,058 70	$11,737 87

			Dr	Cr
		Carried forward	$20.058 70	$17.137 87
Nov.	3	Check 88. C.B. J		10 00
"	5	" 89 E.M.W. J		100 00
"	6	" 90 D Wilson J		300 00
"	6	" 91 Carraher & Co J		156 51
"	8	" 92 S Israel J		50 00
"	8	Checks. $200, $300, $396.40 E.M.W. J	896 40	
"	"	" E Light Co J	10 00	
		Check 93: E.M.W. J		125 00
			$20.965 10	$19.994 38
"	13	Check 94 C.B. J		200 00
	13	Checks $553.17 " $200 " $49 Rec. J	802 17	
	14	Chetain draft $150 =	714 00	
	14	Check 95. Hubbard J		500
		" 96 A H Brown		53 17
	15	" 97 E.M.W.		650 00
	"	" 98 Brewster		75 00
	"	" 99 Rich		75 00
			$22.481 27	$21.547 55
"	16	" 100 Hilliard Coal		60 00
"	25	Note Isolated Co	1544 85	
"	28	Work. 101 Sacred Heart		118 75
"	28	" 102 R Shafter		27 75
"	28	" 103 H Merritt		138 33
"	"	" 104 J. C Holden Trustee		58 50
"	29	" 105 E.M.W.		197 00
			$24.026 12	$22.142 91
			$22.142 91	
		Balance Dec 1st 1884	$1883 21	

Drexel Morgan & Co.

1884			Dr	Cr
Dec	1	Balance —	$1.883 21	
"	2	Check. 106. E.M.W.		350 00
		" 107 Lumber Hall Trustee		112 60
"	3.	" 108 McLean		25 00
		" 109 C.B.		100 00
		110 Lord & Taylor E.M.W.		19 10
		111 Dickson E.M.W.		21 00
"	3	Accept. O.B.E.3.Co 757.88	757 13	
		Check E.M.W.	150 00	
			2780 34	
"	4.	Check. 112. E.M.W.		622 50
		" 113. J. S. Hall		1156 00
				16 46
"	5.	" 114 E.M.W.		300 00
"	"	Checks 1945 300 1960 350 E.M.W.	650 00	
"	6	" 115. E.M.W.		200 00
			$3440 34	$2325 26
			2325 26	
		Balance weekend. Dec 6th	$1115 08	
"	8	G. Cram 116. E.M.W.		45 25
		Check. 117 Lundy E.M.W.		15 00
		" 118. Beck & Co.		24 50
"	11	" 119 Bauman Bro.		33 05
"		" 120 C.B.		100 00
"	13	121 E.M.W.		166 62
	15	Sect. Note	1700 00	
	19	Check 122 E.M.W.		600 00
	20	" 123 Dugan & Taylor		297 00
		" 124 125 C.B.		100 00
			$2815 08	$1984 42
			1934 42	
			$880 66	
		Carried to Page 252.		

Drexel Harjes & Co. Paris C/

1893			Fo.	Dr		Fo.	Cr	
Jan	1	Balance to Credit of C. Batchelor		14588	45			
Feb	26	Check. 19709 Chas B.	✓				1500	00
Mch.	7	" 19710 " "	✓				1000	00
"	21	Deposit £155 at 25.15	✓	3898	25			
"	29	Check. 19711 B. Com.	✓				5000	00
Apl 3	2	" 19712 Chas B.	✓				1000	00
"	11	" 19713 " "	✓				1000	00
"	17	$442.50 Gov. check. at 5.15	✓	2275	90			
Mch.	31	Interest as per Statement Mch 31st	✓	36	50			
Apl.	21	Check. 19714 C.B.	✓				1000	00
June	16	" C.B.	✓				1000	00
"	21	Gov. check. $202.50 5.12½	✓	1037	80			
		Gft J.S. Morgan & Co from C. H. Floor Esq. $26.90	✓	997	00		11500	00
June	30	Interest at 1½ per cent. (Statement)		39	05			
				22876	95		11500	00
				11500	00			
			✓	11375	95			
July	18.	Gft £50 payable J. D. Batchelor				✓	1263	75
"	21	Check. C. Lon. D 19716				✓	7000	00
June	25	" C.B. D 19715				✓	500	00
July	24	Gov. check. C.B. $225. K.B. $20 5.14½	✓	1230	00			
"	28	Check. Wakeham W.H. £24.10.7 5.14½						
		" Verity Bro. £5.2.6	✓	772	50			
Aug	1	" C.B. D 19717.				✓	1500	00
"	9	" C.B. D 19718.				✓	1000	00
Sept.	1	" D. H. Brauson D 19719				✓	150	00
	5	" Myers D 19720				✓	500	00
Oct	2.	Nat. S.M. T.Co. $5000	✓	5000				
		Gov check. $202 5.11	✓	1032	75			
			Fo.	19411	20	Fo.	11913	75

			Fo.	Dr.		Cr.	
Oct	2.	Carried forward	Fo.	19411	20	11913	75
Sept	30	Interest 1½ %	✓	17	35		
Nov.	16	Gft m Sir C. A. Edison $5000	✓	5150	00		
Nov.	30	Check. Chas B.	✓			500	00
Dec	8	" " " 19723.	✓			500	00
"	20	Gft J. D. Batchelor £50 Sterling	✓			1261	25
"	24	Govt Rpt Int. 202 50/100 5.15	✓	1043	00		
"	24	Check Chas B. 19724	✓			1000	00
1894 Jan.	7	Cash (registered letter & Nice)	✓	25621.55		15175.00	
						2002	00
"	14	Insuls check.	✓	4000	00		
"	15	Insuls Check. No 10	✓	296	00		
"	"	Soc. Ind. et Com. Check	✓	625	00		
"	16	Check. 19725	✓			266	05
1893 Dec	31	Interest 1½ %	✓	35	65		
Feb.	3	Check C.B. 19726	✓			6000	00
Mch.	14	Govt Checks $220 + $20 5.11½		1227			
		Chèques Industrielle	✓	625	00		
Mch.	21	Chèque from Panama Canal	✓	131	80		
		Gov. Check 202 5.10	✓	1032	75		
	31.	Interest 1½ %	✓	35	44		
				33630	15	23543	05
				23543	05		
		Balance Mch 31st as per Statement		10187	10		
Apl.	26	Check Ottleimer Bro 19727.				1251	75
"	28	" Chas B. 19728				4000	00
May	2.	Cash.				4635	75
				100	00		

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Drexel Hayes & Co. Paris

			Dr.	Cr.
1885 July	27	Dr. to 3 Shares Compagnie Continentale Edison from Banque Centrale		

John Krenzi Rent/ark.

			Dr.	Cr.
1891			$	$
July 18		By loan	500 00	
1891		Rent J. Aug. Sept. Oct. 1891	60	
May		9 Mo. rent Mr. Cadieux	45	
		Sewing machine Rent Jan 1892.		61 00
		L. Check		544 00
			$605 00	$605

The Edison Electric Light in England.

			$ Dr	$ Cr
		Edison agrees to give one (10%) ten per centum of all royalties or moneys coming to him from the use of his patents on Light and power in Gt Britain and Ireland.		
1882				
May	11	Cash from Royalties		600 00
"	19	" " "		3500 00
Dec	30	" " "		187 26
1882 May		10% Expense of Johnson exhibiting "Light" in England.	134 02	
1886 Oct 20.		Rec'd from D M & Co Cert. No 6 of 1063 B Shares in Edison & Swan United Electric Light Co Lim. of London.		
Dec 1886				

Ds Edison Electric Light Co of Europe (Bonds)

			Dr.	Cr
1882				
May	19	Ds Cash 3 Bonds $500 each.		
		Ds.	750 00	
May	1	Ds Cm. Interest		45 00
1883 Feb	6	" " "		45 00
1884 Jan 31		Cash $\frac{10}{100}$ of total.		450 00

Compound Dynamo (Batchelor & Walker)

			Dr	Cr
1886				
Nov 3		Preparing appln B & W. Case A	50 00	
		360258 & 360259. Mch 29 1887. Case B	40 00	
		1st Govt fee on Patt	30 00	
		Dec 31 1886.	120 00	
		Final fee	40 00	

United States Government Bonds 4 per Cent (Registered)

1880			$ Dr.	$ Cr.
Jan	2.	Cash & Bond No. 30981A $1000 & Char B.		
		" " " " (19738A $5000 " "		
		" " " " 84064A $1000 " "		
		Dec 24 1879. 84063A Qat. 101.⅛	9281 25	
		purchased by Gridiron 84062A		
		84061A		
		83241A		
		83240A		
		83239A		
Apl	1	Check payable to Char B.		220 00
July	1	" " " "		220 00
Aug	30	Cash & Bond No. 96096A $1000 & Roanna B.		
		" " " " 96097A $1000 " " "		
Oct	1	Check payable to Char Batchelor		220 00
Oct	1	" " " Roanna B.		20 00
1881 Jan	1	" " " " "		20 00
"	1	" " " Char B.		220 00
Apl	1	" " " " "		220 00
"	"	" " " Roanna B.		20 00
July	1	" " " " "		20 00
"	"	" " " Char B		220 00
Oct	1	" " " Char B.		220 00
"	"	" " " Roanna B		20 00
1882. Jan	1	" " " Roanna B.		20 00
"	1	" " " Char B.		220 00
Apl	1	" " " Char B.		220 00
"	"	" " " Roanna B.		20 00
July	1	" " " Roanna B		20 00
"	"	" " " Char B.		220 00

1882		Carried fwd	$ Dr.	$ Cr.
Oct	1	Check payable to Char B.		220 00
"	1	" " " Roanna B.		20 00
1883 Jan	1	" " " Char B.		220 00
"	1	" " " Roanna B.		20 00
Apl	1	" " " Char B.		220 00
"	1	" " " Roanna B.		20 00
July	1	" " " Char B."		220 00
"	1	" " " Roanna B.		20 00
Oct	1	" " " Roanna B.		20 00
	1	" " " Char B.		220 00
1884 Jan	1	" " " Char B.		220 00
		" " " Roanna B.		20 00
Apl	1	" " " Char B		220 00
"	"	" " " Roanna B		20 00
July	1	" " " Roanna B		20 00
"	"	" " " Char B.		220 00
Sept	30.	Sold 4 bonds 83241		
		84061 4000 at		
		83240 119⅞		4795 00
		83239		
Oct	1st	Check payable to Chas B.		220 00
		" " " Roanna B		20 00
Oct	8	Sold 2 Bonds 84064 2000 at		
		84063 119⅞.		2397 50
"	25	Sold 5 " 120¾		6037 50
1885 Jan	1	Check to Char B.		110 00
		" " R. B.		20
Apl	1	Check to Char B 110 R B 20		151 00

U. S. Gov. 4%

					Dr	Cr
July	1	Check E.R.B. 20	C.B. 110			13000
Oct	1	" " " 20	C.B. 110			13000
1869. Jan	1	" " " 20	C.B. 110			13000
Apl	1	" " " 20	C.B. 110			13000
"		11 Bonds. at 125 7/16.				13798 12
July	1	Check E.R.B. 20				20000
1869. Jan 1		" " "				20000
Apl. 1	"	" " "				20000

United States Government Bonds 4½ per cent

					Dr. $		Cr. $	
1881 Jan	24	Cert & Bond	9154	$5000 & Roanna B. 112¾ in				
		" " "	9155	$5000 " " "	11268	75		
		" " "	27608	$1000 " " "				
		" " "	27609	$1000 " " "				
		" " "	27610	$1000 " " "				
		" " "	27611	$1000 " " 112¾ in				
		" " "	27612	$1000 " " "				
		" " "	27613	$1000 " " "				
		" " "	27614	$1000 " " "				
		" " "	27639	$1000 " " "	8995	00		
March	1	Check payable to Roanna B.					202	50
June	1	" " " " "					202	50
Sept	1	" " " " "					202	50
Dec	1	" " " " "					202	50
1882 Mch	1	" " " " "					202	50
June	1	" " " " "					202	50
Sept	1	" " " " "					202	50
Dec	1	" " " " "					202	50
1883 Mch	1	" " " " "					202	50
June	1	" " " " "					202	50
Sept	1	" " " " "					202	50
Dec.	1	" " " " "					202	50
1884 Mch	1	" " " " "					202	50
June	1	" " " " "					202	50
Sept	1	" " " " "					202	50
Dec	1	" " " " "					202	50
1885 Mch	1	" " " " "					202	50
June	1	" " " " "					202	50
Sept.	1	" " " " "					202	50
Dec							202	50

Registered

1885		Carried over	
Dec	1	Check payable to R B.	202 50
1886 Mch	1	" " " " "	202 50
Jun	1	" " " " "	202 50
Sept	1	" " " " "	202 50
Dec.	1	" " " " "	202 50
1887 Jan	17	5000 at 110	5500 00
Mch	1	Check payable to R B	146 50
June	1	" " " " "	146 50
"	27	13000 at 109 1/4	14218 75

W. S. Perry

1893			Dr	Cr
Nov.	30	Checks	3000 00	
Dec	4	17 Shares Am Bell Tel Co at 170 L		289 50
		Commission		17 00
1894 Jan	18	15 Shares Am. Bell Tel. Co at 160 incl. Com in.		2400 00
"	"	Check	2315 50	
			$5315 50	$5315 50

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The Edison Electric Illg. Co of New York. Stock.

			Dr	Cr
1885.				
Nov.	15	From Machine Work on dividend 10 Shares	1000 00	
Dec	15	" " " 25 Shares	250 00	
1886 Feb	1st	Dividend & Check		35 00
1886. Feb	1st	Int at 6% on mon.	31 25	
			$ 3531 25	35 00
			$ 3531 25	
			35 00	
		Balance Feb. 1st 1886.	$ 3496 25	
May.	3.	Dividend		35
May	1	Interest at 6% per a.	52 44	
			$ 3548 69	
			35 00	
		Balance May 1st 1886.	$ 3583 69	
Aug	1	Interest at 6% per a.	53 75	
"	2	Check		35 00
			$ 3637 44	
			35 00	
			3602 00	
			54 03	
Nov.	1	Int at 6%		
"	1	Check.		35 00
			$ 3656 03	
			35 00	
			$ 3621 03	
Feb.	1	Int. at 6%	54 31	
		Dividend		35 00
			$ 3675 34	
			35 00	
			$ 3640 34	

		Brought from	3640 00	
May	1	Int & Dividend	54 60	35 45
			3694 60	
			35 45	
			3659 15	
		Extra div. 7%	245 00	245 00
			3412 15	
Aug	1st	Int at 6% & Dividend	51 18	35 45
			3463 33	
			35 45	
			$ 3428 88	
Aug	1st	Subscription to new shares. 30%	1050 00	
Sept	13	Int at 6%.	32 34	
"	"	Subscription to new shares 30%	1050 00	
			5508 22	
Nov.	1st	Int at 6% to date	43 65	
		Dividend Check.		35 45
			5601 90	
			35 45	
		Bal. Nov 1st	$ 5566 45	
		Int to 1st at 6%	55 66	
Nov	1.	Cash & 20% of sub.	700 00	

Nov 15 1887. $3500
35 Shares 245
Sto. Shares 2800
Subscription new shares $ 6545

The Edison Company for Isolated Lighting New York. (Stock)

1882.			At	Ld.	$ Dr		$ Cr	
1882 Dec	30	By 54 Shares at $100	54		5400	00		
1883 Feb	2	Cash & Stover Attorney for I.O.C. Lect for me			4	00		
"	28	Dividend declared 10%					540	00
1884 July		Dividend " 4%					216	00
		Took E.E. Light Co Stock at 3 Edison Lights & Power Isolated						

Amer. Bell Telephone A. Stock

			Dr.	Cr.
1885 Dec	1	17 shares at 170 & 7 cum	2915 45	
1886 Jan	14	Dividend		51 00
Jan.	1	Int. on $2915.45 at 6% per ann.	14 57	
"	18	15 shares at 160 int. cum	2400 00	
Apl.	15	Dividend		90 00
Apl.	1	Int. on $3330. for 3 m at 6%	49 95	
			$5409 97	$141 00
			147 00	
			$5262 97	
1886				
June	30	Int. at 6% per a.	65 77	
July	14	Dividend		96 00
Aug.	10	Dividend.		125 00
Aug	10	Int. to date	36 71	
			$5365 48	$221 00
			221 00	
			$5141 48	
Sept.	26	Int. from Aug 10 47 d. 6%	39 71	
		Payment on a/c 32 shares Ist Em. Pfd		608 00
		3 days int. at 6% on abov.	3 04	3 04
		Commission on 32 shares 1/8%	4 00	4 00
		Check.		8 96
		32 Sh. at 193½ less 50¢ per share	$5188 20	$617 60
				518 20
		Made over 6% int. for my money.		$98 40

Compagnie Continentale Edison (Actions)

			Dr.		Cr.	
1882.			Fr.	Ct.	Fr.	Ct.
Jan	20	Cash to 5 Actions 5	12500	00		
1882 Sept.	18	Jetons de présence 31 Dec. 1882.	236	55		
		Cash.			236	55
1884 July	3	Jetons de presence pour la première semestre de 1884	833	35		
"	5	Cash.			833	35

Societe Electrique Edison (Actions)

			1st	2d	Fcs	Dr.	Fcs.	Cr.
1882								
Jan	2	Cash 6 10 Actions 500	10			5000 00		
1883 Sept	18	Jetons de presence 31 Dec 1882.				214 30		
"	25	Cash.						214 30
1884 July	3	Jetons de presence du premier semestre de cette année				750 00		
"	5	Cash						750 00
Aug	4	Cash proportion of Fcs 2924.80 voted to Administrators				2689 40		2689 00
1885 Apl	18	Transferred from books of Soc. Industrielle as per letter 505				681 75		

The Société Industrielle & Commerciale Edison (Actions)

1882.			Br	Fo	Dr		Cr
Jan	21	Cash 6 10 Shares	10		5000	00	

Edison Telephone in South America

		By agreement (verbal) I have (20%) twenty per centum in all moneys that may accrue to T.A. Edison from the working of his patents for telephones in South America	$	Dr	$	Cr
1882						
Dec	31	Cash on my acct with Edison			1697 63	

Royalties etc

Edison's Indian and Colonial Electric Light

			Dr.	Cr.
1882		I am entitled to 10% of all money or shares accruing to Edison from the use of his Patents owned by his Company & if he has to bear any expense I must bear my proportional part —	$	$
Dec	30	By Cash on Edison a/c		2680 33
"	"	Ds. 91 Share at £5 = £455. 91	2240 00	
"	"	To proportional expense	7 32	
1884	Aug 23	Reduction of Capital Stock Dec 1886.		968 00
1884 Oct 5th		Rec'd. Share of the Australasian Electric Light, Power & Storage Company Limited — London. Ordinary shares £393 Deferred " £393.		

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Bergman & Co. New York.

			Dr	Cr
1882		Mr Edison became a partner in this firm 1882 putting $ in in cash. He allowed me to take a proportional interest with him similar any arrangements on Electric Light. I therefore own one tenth of one third in the concern & pay my amount of assessment for such. I receive 3⅓ pc of the total benefits —		
Dec 1882	30	By Cash from 8 on my a/c	3500 00	
" " "		" " " " " "	329 00	
Dec 1883	31	Int at 6% 1 Year	229 74	
			$4058 74	
Dec 1884	31.	Int at 6% 1 year	243 52	
		Dividends paid Jan 1884, and		$1585 49
		I received 150 Shares stock	$4302 26	$1585 49
		Capital $300000 in 3000 Shares	1585 49	
		2 April 188 Balance Jan 1 1885	$2716 47	
Dec. 1885	31	Int at 6% 1 Year	162 98	
		Dividends paid in 1885.		1400 00
			$2879 45	$1400 00
			$1400 00	
		Balance 1886 Jan 1	$1479 45	
Mch.	1	Dividend		600 00
June	1	"		500 00
May	30	Int. at 6% per a	36 95	
			$1516 40	$1100 00
			1100 00	
		Balance June 1st. 186	$416 40	

C H Johnson 33⅓ pc
S Bergman & 33⅓ pc
T.A. Edison. 33⅓ pc

Company formed 2 Apl 1884 143
My share 100 shares of 600 each.
Capital $300,000.

			Dr	Cr
July	31	Dividend paid & earned	885 79	885 79
1884 Sept	29	Dividend for Mch 1 & Sept 1 1884 on my shares at 7%	700 00	
1884 Oct	13	Check		350 00
1884 Nov.	1	Check.		350 00
1885 Mch.	28	Dividend on Stock 6 Month	800	
		By check.		800 00
Dec.	1	Dividend	600 00	
1886		Check		600 00
Mch	1	Dividend	600 00	
	8	Cash		600 00
	1886	Brought from June 1st	$416 40	
Sept.	1	3 m. Int. at 6%	6 24	
"	15	Cash dividend		500 00
			$422 64	422 64
		Balance Sept 1st. 1886		77 36
Jan.	3	Cash & dividend		500 00
May	26	" " "		500 00
Nov.	3.	Cash for div. due Dec 1st.		498 66

Bagman & Co Stock a/c.

			B	S.	Dr	Cr
1892.						
Dec.	20.	Bought	100			
1893	Apl	Increase.	133⅓			
May.		As per agt.ᵗ	16			

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Edison Oriental Telephone Co

			$ Cr	$ Cr
1882.		I am 20% of all moneys or shares accruing to Edison from the use of his patents worked or held by this company in payment (part) for the experimenting I have done on such patents. I must pay my proportional part of any expences that may be incurred –		
Dec	30	Sundry expenses (Cheque 4/6)	135 45	
May	6	Cred from Gouraud. £855 at 4.88		4172 40
"	"	Shares deferred 2850		
1886 Oct.	14	Sold 2850 Shares at 1/10. £261..8 at 4.82 1267.22 Less 10% Comm. 126.92		1138 30
			$ 135 45	$ 5305 70
				135 45
		Total made in 4 y.		$ 5169 25

Elie Leon

			Dr.	Cr.
1882			Frs.	Frs.
Jan	21	By loan		22500 00
1883. Mch	31	By interest at 6%		1608 75
" "	29	By Check.	5000 00	
" July	21	" "	7000 00	
" "	24	Int 6% 31 Mch. & 24 July		363 10
Aug	31	" " 24 July & 31 Aug on 12471.85		79 00
Sept	30	" " 31 Aug. 30 Sept. 31 days		62 75
Oct	31	" " 1 Oct - 31 " 31 days		65 15
Nov.	30	" 30 "		63 40
Dec	31	" 31 "		65 85
			12000	24808 00
				12000 00
				Frs 12808 00
1884		Balance due Dec 31st 1883		
Feb.	1st	Interest 6% a 31 Jan 31 days		66 05
"	29	" " " 29 Feb. 29 "		62 20
Mai	31	" " Mai 31st		199 25
June	30	" " June 30		1315 50
				65 65
		Total June 30		13201 15
		July 7 Rect. interest etc		136 75
Sept	18	Draft Frs 13.337.90. Cash #2562.07	Frs 13337 90	Frs 13337 90

Cash Receipts for year 1882.

			Dr.	Cr.

Seamen's Bank for Savings — New York.

In a/c with Roanna Batchelor — Book. 182.945

			Dr	Cr
1878.				
Dec 31		Cash.	500.00	
1879 Mch 26		"	200.00	
" July 1		"	300.00	
"		Interest to July	12.00	
" Dec 20		Cash drawn		50.00
1880 Mch 31		Cash	225.00	
		Interest to Jan. 1880	16.74	
1881		Interest to Jan 1881	46.31	
1881		Interest to July 1881	25.00	
1883.		Interest to Jan. 1883	64.50	
1884 Oct	23	Deposit	100.00	
1884		Int to July	61.18	
1884 Dec	29	Deposit	202.50	

Edisons Electric Pen and Duplicating Press

			Dr.	Cr.
1876.		My work on the was 12 months experimenting with Edison		$
Feb. 8		Cash from R. Gilliland for my interest in United States		1000.00
Aug	8	" " " "		1200.00
Sept	11	" " " " (Return Note)		222
Nov	14	" " " " " "		300
"	"	My share of British Patent sale		221.3
Dec	14	Cash from R. Gilliland		729.35
"	27	Dividend from foreign trade		110.25
1877 Feb	21	Cash from Gilliland note		300
June	30	" " " "		500
Nov	12	" " " "		520.42
1879 Jan	13	Foreign Royalty to Aug 12 1877		158.75

Edison's Phonograph

			Dr.	Cr.
1879.				$
Dec	1	Royalty for Nov.		13.47
1880 Jan	1	" " Dec		20.47
"	"	"		74.39
"	31	" from England		97.10
Feb	1	" for Jan		12.97
Mch	8	" " Feb.		14.91
Apl	1	" " Mch.		9.70
Mch	1	" "		28.53
				6.52
				4.31
				9.45
				8.20
Mch	2	Cash to Expenses	7.35	
		Rec'd 5 Shares of Stock –		

Edisons Electromotograph

			Dr	Cr
1880				
Apl.	14	In consideration of the work I had done experimenting on the M. Edison gave me		$ 1000.00

The Edison Shafting Mfg Co Stock A/c.

			Dr	Cr
		On July 14 1884 an agreement was entered into between Thos A. Edison Chas Batchelor & Harry M. Lyon which resulted in a company being formed of $10,000 in 100 shares of $100 each for the manufacture of shafting etc. Edison & Batchelor putting in machinery and money & Lyon tools & service in such proportion that the shares were divided as follows:- Thos A Edison 44 H. M. Lyon 44 Chas Batchelor 12. all of which are in trust with J Reeves for 3 years. Consolidated with the Edison Mfg Co 1886.		

No.

The Edison Shafting Mfg Co.

1884.			Dr.	Cr.
Aug.	1	Check to H.M. Lisor	$ 12 00	
"	"	" Geo Talcot	80 00	
"	4	Check from E.M.W		92 00

The Edison Shafting Mfg Co Treasurer Yc.

			Dr.	Cr.
Oct	4	Cash to Lisor $12, $4, $25	41 00	
Oct	6	Check .. Rogers.		200 00
		Acceptance Geo Place 3 m. $455 17/100		448 97
"	6	Check. 51 Talcot	30 00	
		" 52. Met-Tel. & Tel Co	12 60	
"	9	Cash to Lisor for Organ	10 12	
"	10	Check Compton 58	25 00	
"	11	Check. 60 & 8 M. W.	250 00	
"	15	Cash " 25, Met Tel. 14.50, 57.60, 1500, Nat Tel. & Yc Mfg, Lumb.	106 40	
		Cash.	35 00	
"	17	Cash	100 00	
"	25	Note Geo Place $1500 4 mos. 7%		1465 00
"	25	Cash. (by check to Mapel)	100 00	
"	"	Check.	1365 00	
"	30	Cash	10 81	
			$2,113 93	$2,113 93
1885.				
May	23	Check.	500 00	
June	1.	"	200 00	
	8	Check.		200 00
"	13.	Check.	500 00	
	15	"		250 00
	17.	"		250 00
			$1,200 00	$700 00

			Dr	Cr
		Carried forward.	$1200 00	$700 00
June	29	Note for 4 m. returned	1000 00	
"	"	Note for 4 m. June 29 due Nov 1st		1000 00
		Int on above.	23 33	
		Check. 20 & $3.33		23 33
July.	3.	Note due.	400 00	
"	"	Note 3 m. 8 S Mfg. & O.B.		400 00
"	"	Int on Same	7	
"	"	Check.		7
"	13	Note due today.	350 00	
"	"	Int on renewal 4 m.	8 17	
"	"	Note at 4 Months # 258.		350 00
		Check.		8 17
	16	Note due today	350 00	
		Note 261 4 m.		350 00
		Int on same & check	8 17	
				8 17
Aug	8	Note due today	417 93	
		Note 268. 4 m.		417 93
		Int on same & Ck.	9 73	
				9 73
Aug.	10	Cash.		50 00
"	20	Note Cornell & Co 4 m.		750 00
		Check.	724 92	
		Int on Cornell note	17 50	
		Int on $500 check 79 days.	7 58	
Oct	6	Note returned 257	400 00	
		Note 269		400 00
		Int on Same.	7 00	
		Check.		7 00
"	8	Note Rand Mfg Co & S.S.M.Co.		975 58
		Int on same	6 71	

The Cohoes Shafting Mfg Co.

			Dr	Cr
1885		Brought forward		
Oct	8	Check. Jas Fox	168 87	
		" 11 Hand	400 00	
Oct	19	Note 4 m due	500 00	
		Note #293 4 m. Jas Fitz 22nd		500 00
		Int on same	11 67	
		Check		11 67
Oct	21	Note returned	350 00	
		Note 350		350 00
		Int on same.	8 17	
		Check		8 17
"	31	Returned note #	100 00	
		Note & Int. 4 m. #299 Jas McL 4		100 00
		Interest on same	23 33	
Nov.	8	Check.		23 33
"	11	Note due. Returned	350 00	
"	"	Note #302. Jas McL 13 Mo.		350 00
		Interest on #302 & Check	8 17	
	14	Check.	393 00	
	14	Note Cornell & Co. 3 m.		400 00
		Int on same	7 00	
"	20	Note 261 returned	350 00	
		Note #309 4 m.		350 00
		Int on same & Check.	8 17	
Dec	4	Note returned 268	417 03	
		Int on note	9 75	
		Note at 4 m 313		417 03
		Check.		9 75
	5	Check	750 00	
	8	Check	293 76	

			Dr	Cr
1885		Carried forward		
Dec	8	Note W. M. Dietz		204 10
		" Willard & Barnard		155 02
		Int on same at 6%	538	
"	22	Note of Cornell & Co (protested)	750 00	
		Check dated 26th Dec		750 00
	23	Note returned #283.	360 00	
		Note #320 at 3 m.		360 00
		Int on same at 6%	540	
		Check.		540
Jan	4	Note returned #289.	400 00	
		" #325 400 3 m. 6%		400 00
		Int on same & Check for 6 Mo.	7	7

Hale and Norcross Mining Co

			Dr	Cr
1874				
Aug.	15	50 Shares 82 assess. pd.	$ 327 00	
Dec	24	50 Shares at 3.10 less 1.50		160 00

Notes & Bills Pay.

			Dr.		Cr.	
1884 Sept	30	Note Isol. Co. 191. Due Nov. 25th $1544 85/100 8 month date Sept 4	1526	83	1544	85
"	30	Note Isol Co 194. Due Dec 10th $1500 - 3 month date Sep 4.	1473	75	1500	00
"	30	Acceptance. Chas E. E. Suttel Co. $54 32/100 Date Sept 26 30 days Due Oct 26	750	60	753	54
"	30	Acceptance Chas. E. E. Suttel Co. $757 88 Date Sept 29th 60 days Due Nov. 28th	750	40	757	88
Oct	7	Acceptance. Geo Place Mach Co $455 77/100. Date Oct 4 3 months Due. Jan 7th 1885	448	93	455	77
Oct.	8	Note Isol. Co. 198 Date Sept 15 $1700 3 month. Due Dec 18th	1674	50	1700	00
Oct.	18	Note. Isol. Co. 201 Date. Oct 18th $500 2 month Due Dec 21st	495	00	500	00
Oct	18	Note. Isol. Co. 202. Date Oct 18th $505 42/100. 2 month. Due. Dec. 21st This note turned over to Edwin for a/c of Machine Works.	500	44	500	44
Oct	25	Note Isol. Co 207 Date Oct 25. $1300. 2 month. Due Dec 28th	1284	83	1300	00
Oct	24	Acceptance Geo Place Co. Date Oct 24 $1500 4 month Due Feb. 27 1885	1465	00	1500	00
			$10,374	28	$10,513	26

1884		Brought forward.	$10,374	28	$10,513	26
Nov.	5	Note E M W. Date Nov 8 $1000 6 month Due May 8 1885	1000	00	1000	00
"	5	Credit on Machine Works book			35	00
Nov.	8	Note 212 Isol. Co. Nov 8 Date $1250 - 90 days. Due Feb 9 1885 Credit on Mach W. Book	1250	00	1250	00
					22	60
Nov.	25	Note William Prate Nov. 25 $200 + int. 3 month 1885 Feb 28 Int	200	00	200	00
					3	17
Dec Nov	29	Note Isol Co Nov 29. $1200 2 month Due Feb 1 1885	1186	00	1200	00
Dec	24	Note Western Ed. El C. Dec 6. $1900 90 days. Due March 9th	1863	19	1900	00
Dec	24	Note 214 Isol Co Dec 24. $595 50/100 2 month. Mch 2.	588	00	590	50
1885 Jan.	3	Note 252 Isol. Co Jan 2 $1000. 3 month 90 days. due Apl 5.	984	16	985	83
Jan.	29	Note Illy Co. Jan 29. $1081 42/100 30 days. Mch 3	$1082	42	1081	42
"	30	Note Shifty Co Jan 30 $312 50/100 60 days. Apll 3.	308	25	312	50
			$16,833	66	$19,100	98

Notes & Bills &c.

1885			Dr	Cr
		Carried forward	$12833 66	$19100 98
Jan	31	Shfty Co. Due Apl 3rd. $505 20/100 2 month	$499 11	505 00
Feb.	20	Isolated Co Due Apl 22 $413 71/100 2 month	409 57	413 71
"	26	E. Shfy Wpon Due June 29. $1000— 4 month	$972 34	1000 00
	26	Isolated Co Due Apl 29. 1292 87/100 2 month	1277 00	1292 87
Mch.	6	Geo Place Mchy Co Due. June 9. 202 32/100 3 month	199 28	202 32
	11	G. H. Reid Mch 10th due. July 13. 310 00/100 4 month.	303 60	310 00
	11	Isolated Co Due May 11 $1491 40 2 month	$1476 49	1491 40
"	12	Shfty Co Due June 13 $500 00/100 3 month	492 54	500 00
	14	Shfty Co Due July 14 $350 00 4 month	341 64	350 00
	7	Shfty Co. Due July 10 350 00/100 4 month	341 64	350 00
			$25146 43	$25515 48

Notes Bills etc

1885			Dr	Cr
Mch	20	Isol Co. Due May 20th $1281 57 2 month	$25148 43 1267 56	$25515 48 1281 57
"	"	Isol Co Due June 23 1000 3 month.	985 00	1000 00
Apl.	1	Shfty Co Due July 1 400. 3 month	393 00	400 00
Apl	1	Shfty Co Due Aug 1 417 03 4 month	409 30	417 03
"	2	Isol. Co. Due. June 5. $1000. 2 month.	988 34	999 50
"	4	C M W. Notes Mch 5 $783 23/100 3 month Due June 8	768 77	783 23
"	4	C M W. Mch 5. $786 77 4 month Due July 8	768 77	786 77
"	6	Western Et Co Apl 4 2410 65/100 90 days. July 6.	2402 70	2410 65
Apl	23	Isol. Co $1269 02 2 month Due June 26	1254 27	1269 02
May	8	C M W. 4 month Due Sept 4 $1000 —	100 00	2339 100 00
			$35394 74	$35996 45

			Dr.	Cr.
		Brought forward.	$35,384.14	35,976.45
May	7	Geo Place Nat Cy. to Steffy Co. 500 month Due.	488.33	
		Discounted by Germania –		489.75
May	9	Atlantic Steam E Wks to E Steffy Co. 206 46/11 4 months dates Apl 17. Due Aug 2n.	201.43	206.45
May.	21	N. E. Light Co. to E.M.W. $2405 – 60 d. July 22nd 1885	2376.94	2376.55
May.	21	Geo. Co. to E.M.W. $1311 13/100 3 m. Aug 24th 85	1288.18	1311.13
May.	28.	Geo Co. to E.M.W. $813.14 3 m. Aug 30th 85	798.91	813.14
June	11	Geo. Co to E.M.W. Discd. 11th. $1040 2 month Aug 7 1885	1027.87	1030.12
June	14	E Lab. C. to S.A.E. $1000 1 month July 7th 85	994.14	1000.00
June	8.	E.M.W. $13 27/100 3 m. Sep. 11th		13.41
		$783 23/100 3 m. Sep. 11th	783.23	783.23
"	11	Geo. Co to E.M.W. Disd. 11 Nov June 16th $751 67/100 2 m. Aug 14th	744.29	744.27
			$44,086.07	$44,744.82

			Dr.	Cr.
June	16	Geo Co to E.M.W. $826 63 2 m. Aug 19th	$44,086.07 $816.99	$44,744.82 818.23
"	"	Geo Co to E.M.W. 800 2 m Discounted by S.A.E. Aug 19.	790.66	790.68
"	"	Geo Co to E.M.W. 800 2 m Aug 19	790.66	800.00
"	17	Steffy Co. to C.B. June 16 $500 4 m. Oct 19.	488.34	500.00
"	21	Steffy Co. to C.B. $350 00 4 m.	341.50	350.00
	26	Check Steffy Co to E.M.W. I paid Cash for. I now get Interest $350		2.04
	26	Geo. Co to E.M.W. 444 20 1 month Due July 29	442.34	444.94
"	29	E Steffy C to C.B. 1000. 4 M. Due Nov 2	1000	2.39 1000.00
July	3.	E Steffy C to C.B. #357. $400 3 m. Due. Oct 6.	393.00	400.00
July	3.	E.M.W. to C.B. $786 71/100 4 m. Due. Nov. 11	770.98	786.71
			$4,992.88	$5,066.75

See page 178

Electric Tube Co. Stock

1884			Dr	Cr
Oct	8	Bought from L.A.E. Shares 5/100	500.00	
"	8	" " E.M.W. " 5/150	750.00	
		Amalgamated with the E.M.W. 1886		

Drexel Morgan & Co Loan A/c.

1884			Dr	Cr
Jan	21	By Check		£15,000.00
		As security for taps		
		2 Notes Edison Elect. of Detroit		
		at 4 months from Jan 22 1884.		
		Also 128 shares of Edison E.L. Stock		
May	21	Cash	15000.00	

Dividends etc.

			Dr	Cr
1884 Aug	28	Certificate of indebtedness	£80.000	

Miscellaneous Receipts.

1884 Nov.	7	Directors fees E.E.L. Co	$10	00
1885 "	19	" " Isolators Co	5	00
Jan	9.	" " Isolators Co	5	00
"	26	" " E.E.L. Co	10	00
June.	24.	Isol. Mch. 1/5 Isolators Elec & Gen.Co	10	00

1898 Notes. Bills. etc.

			Dr.	Cr.
		Carried from Page 171	$49.920.88	$50.660.73
July	7.	E. Sttg Co to Charb. #258. 350 00/100 4 m. Due Nov. 10th	341.83	350.00
"	16	E. Sttg Co & C.M.W. 2 m. Disc. $1052.60 Due. Sept 19	1020.55	1021.58
	16	E. Sttg Co & C.M.W. 4 m $350 00/100 #261	341.83	350.00
"	20	E. Tick C. to C.M.W. 2 m. $1000 Due. Disc.	975.34	990.35
	24	Sol. Co & C.M.W 1 m 635 97 Due. Disc.	631.51	631.62
"	30	Sol Co & C.M.W. 60 d. $895.47 Due. Dr. Germania	885.02	895.47
Aug	1	E. Sttg Co & C.B. 4 m. $417.03 Due Dec. 4	407.00	417.03
"	13	Sol. Co & C.M.W #367. $1175 25/100 2 month (Disc.) Oct 16	1159.58	1160.93
	13	Sol Co & C.M.W. #369 $1175 25 3 m (Disc.) Nov. 16	1152.72	1159.87
	20	Chas & Crucer to Sttg Co. $750 00/100 4 m. Due Dec 23	732.50	750.00
		Initialed Check for Sttg Co.	$49.592.06	$50.382.66

			Dr.	Cr.
		Carried forward	$59.582.06	$59.382.66
Aug	20	Sol Co to C.M.W #373 $700. 60 d Due Oct 21st	691.94	700.00
"	"	Sol Co to C.M.W #374 $700 90 d.	687.94	700.00
Aug	24	Sol Co to C.M.W. #380 1000 90 d Due Nov 28th	981.76	1000.00
"	"	Sol Co to C.M.W. #38- $774.97 60 d. Discd. 11 Mon	770.58	774.97
Sept	1	Sol Co to C.M.W. #387 $1298 35/100 60 d. Due Nov. 2.	1284.76	1298.35
	4	Sol Co to C.M.W 388 1000 60 d Due Nov. 5 Discd. 11 Mon	989.67	989.67
	4	Sol Co to C.M.W. 389 1000 60 d Discd. 11 Mon.	989.50	989.50
Sept	22	Sttg Co to C.M.W. 285 360 00/100 3 m. Dec 25.	353.70	360.00
Sept	11	C.M.W. to C.B. 1200 00/100 3 m. Dec 14	1179.00	1200.00
			$65.516.03	$66.396.85

Notes and Bills

			Dr	Cr
1885		Carried forward	$6551 63	$6396 85
Sept.	24	E. E. O. B. Bellaire & H. A. S. Sept 21 250 00 4 m Jan 24 1886	244 16	250 00
"	24	Isaac C & E. M. W. # 411. $831 40 90 d. Dec 24. 1885.	820 00	824 60
	24	Isaac C & E. M. W. # 409 Sept 24 500 — 90 d. Mar. Dec 24	491 25	500 00
	25	Isaac C & E. M. W. # 407 Sept 25 500 60 d. Nov. Dec 24.	494 17	500 00
	25	Isaac C & E. M. W. # 408. Sept 25 500 60 d Nov. Dec 24.	494 17	500 00
Oct.	1	Isaac C & E. M. W. 417 Sept 1000 30 d. Fixed Nov. 3.	994 17	995 33
	1	Geo Place & Sefty C & E. M. W. 250 3 m. Jan 4 1886.	245 63	250 00
	3	E. Sefty C & C. B. 400 — 3 m. Jan 6 1886	393 00	400 00
Oct	1	Paul Mill C & E Sefty C. 575 57/100 60 d. Dec 10th	568 87	575 57
Oct.	19	E Sefty C & C. B. 293 500 00 4 m. Feb 22. 1886	488 35	500 00
			$10,750 63	$11,702 26
Oct	23.	E. Sefty Mfg C. & C. B. 350 — 4 m. Feb 27 1886	341 83	350 00
Oct	16	J. T. Burn & E Sefty C 74 22 60 d. Due Dec 17 1886	73 12	74 29
Oct	19	Geo Place & Sefty C 350 00 4 m Feb 22d	341 84	350 00
Nov.	8th	E Sefty C. & C. B. 1000 4 m. Mch 4 1886	1000 00	1000 00
			$12,807 72	$12,476 65 24 00
"	10	E Sefty C & C. B. 350 4 m. March 13.	341 84	350 00
"	11	E. M. W & C. B. 766 71/100 4 m Mch 14.	748 36	766 71
"	14	Chas E Crowell C & E Sefty C. 400 3 m Due Feb 17/86.	393 00	400 00
"	17	Sefty C & Chas B. Nov 17. 350 4 m. Mch 20. 86	341 83	350 00
	25	Isaac C & E. M. W. Nov 24. 492 40 30 d. Dec 27. 1885	489 27	492 40
	17.	Acceptance Cumberland C. & E. M. W. 146 74 60 d. Jan 4.	145 27	146 74
			$14,987 29	$16,026 50

Notes etc

			Dr	Cr
		Carried forward.	$4985 29	$16,026 50
Dec	1	E. Sheff & C. & Chas B. $417.03 4 m Due Apl 4 1886	407 30	1039 21
Dec	2	Geo Mac & E. Sh Co. $500 – 4 m. Apl 5 1886	490 00	500 00
"	4	Willard & Barnard & E Sh & Co. 6% $155 02 3 m. Mch 7 1886	152 76	155 02
	8	A. W. Dexter & E. Sh & Co 6% $204 10 3 m. Mch 11 1886	201 04	204 10
"	18	E M W & C B. $1200. 3 m Mch 17th 1886	1181 40	1210 00
"	22	E. Sh & Co & C B. #320. 360 3 m. Due Mch 25 1886	354 60	360 00
Jan.	4.	E. Sh & Co & C B. #325. $400 – 3 m Apl 7	393 00	400
Feb.	20.	E. M. W. & C B. 159. $500 4 m. June 25 1886.	488 33	500 00
"	21	E M. W. & C B. 160 $350 4 m. Apl 29 '86	341 83	350 00
Mch.	1	E M W & C B. 175. $1000 4 m. July 4.	976 67	1000 00
			$4986 93	6125 36
				4986 93
				$1138 43

Notes etc

			Dr	Cr
1886				
Mch	13.	E. M. W & C B. #189 $350 4 m. July 16.	341 83	350 00.
"	14	E M W & C B #188 $786 $\frac{77}{100}$. 4 m.	774 22	774 91
"	18	E M W & C B. #192 1200 3 m. Due June 25.	1176 00	1184 00
	18	E M W & C B #193 Orange $350 4 m. Due July 25	341 93.	344 75
"	25	E M W & C B #196. $360. 3 m. June 25.	353 49	360 00
Apl.	10	E M W & C B. #205 Oregon 400 3 m. July 10.	393 00	392 00
Apl.	3.	E M W. & C B. #206. $417.03 4 m. Aug 6.	407 30	408 69
Apl.	5	Sec. C & E M W. #552. $760 $\frac{44}{100}$ 30 d. May 5.	756 30.	760 44
Apl.	1	E M W & C B. #232 $3000. 4 m Aug 4/86.	2933 00	3000 00
"	1	E M W. & C B. #233 $3000 5 m. Sept 4/86.	2912 50.	3000 00
			$10,585 57	11,741 92
				$10,585 57
				$1156 35

1886		Carried forward			$1331 95
Apl.	1	Em. W. & C.B. #234 $4388 81/100 6m Oct 1/86	$4234 40		$4388 81
May.	26	Taylor & Co. & C.B. May 24 $750 — 3 m. Aug 24. 1886	738 75		750 00
June	26	E M W & C.B. June 26 1886 $500 4 m. Oct 29/86	488 33		500 00
	28	Em W & C.B. #245 June 28 1886 $360 3 m. Oct 1st	354 45		360 00
	28	Em W & C.B. 246 June 29 1886 $350 — 4 m. Nov 1st 1886	341 83		350 00
July	3	Em W & C.B. 249. July 3. $1000 4 m Due Nov. 6.	980 00		1000 00
June	29	Creed & Livor & Em W. June 29th $305 — 4 m. Due Nov 1st	298 95		305 00
July	4	Royal Electric Co & Em W June 15. 126 50/100 30 days July 31 1886	126 37		126 87
Aug	4	Em W & C.B. Aug 4 $3000 4 m. Dec. 4/86	2930 00		3000 00
Sept	4	Em W & C.B. $1799 66/100 5 m. Feb 4. 87.	1747 21		$1799 66
					$16720 00

					16720 00
Oct	1	Em W & Co #361 $360 — 3 m Jan 4 87	$354 45		$360 00
Oct	4	Em W & C.B. #362. $4388 81/100 6 m Apl 4 1887.	$4237 15		4388 81
Oct	16	Shague & Em W. #19 $1000 4 m. Feb 19 87.	976 67		1000 00
"	29	Em W & C.B. #380 $500 4 m Mch 4 1887	490 00		500 00
"	27	E.E.L. Co & Em W. #34 $2143 22/100 3 m. Jan 30/87.	2125 72		2143 22
"	20	Agt. Lawson & Em W #47 768 17/100 30 d. Nov 22.	764 83		768 17
"	27	Sol O & Em W. #665 $1846 28/100 3 m Jan 22 87	1818 59		1846 28
Nov.	1	Em W & C.B. #406 $350 4 m. Mch 4 87.	343 00		350 00
"	6	Em W & C.B. #406. $1000 4 m Mch 9.	980 00		1000 00
"	12	Lawson & Em W. Nov 12 688 13/100 30 d. Dec. 15.	684 69		688 13
					$17021 91

Notes etc

			Dr	Cr
		Carried fwd.		1921 91
Nov	24	Taylor & Co. $750 — 3 m. Feb 27/84	738 75	750 00
Dec.	7	Em N & Co. $3000 — 4 m. Apl 10 1884	2940 00	3000
1884 Jan	4	The Em N & Co. $360 3 m. Jan 4 1884 Apl 4 1884	354 60	360
Feb.	7	The E M N & Co. $1600 5 m. July 10/84	1560 00	1600 00
Mch.	4	$500 The E M N & Co. $500 4 m July 7	$490 00	500 00
Mch.	4	The E M N & Co $350 4 m July 7	$343 00	350 00
"	9	The E M N & Co $1000 4 m July 12.	$980 00	1000 00
Apl	7	The Em N & Co $360 3 m. July 10th	354 60	360 00
Apl	7	The Em N & Co. 4388 $\frac{81}{100}$ 6 m Oct 10	4284 10	4388 81
Apl.	10	The Em N & Co $3000 — 4 m Aug 13	2940 00	3000 00

			Dr	Cr
		Carried forward		
April	20	E. U. Co. to the E.M.N. Apl 19. 2395 $\frac{20}{100}$ 90 days July 21.	2335 94	2395 20
	26	E U Co. to the E M N Apl 22. 1125 $\frac{07}{}$ 90 days July 24.	1099 45	1125 07
Apl.	20	The E.M.N & Co. 684 $\frac{55}{100}$ 4 m Sept 23. 84	670 84	684 55
June.	18	The E.M.N. & Co. June 17. 686 $\frac{16}{}$ 4 (m) Oct 20th	672 13.	686 16
July	27	E.H.J. & Co. July 27. $2000 — 4 m. Nov 30th	1960 00	2000 00
July	25	E.H.J. & Co. July 25 $3000 4 m. Nov 25th	2940 00	3000 00
Aug	12.	Em N & Co. Aug 12. $2895 $\frac{61}{}$ 4 m. Dec 15 1884.	2838 53	
Sept	23.	Em N & Co. 684 $\frac{55}{}$ 4 m. Jan 26 1885. Sent to Taylor for U.F.Co —	670 84	684 20
1884. Oct	10	Em N to Co $4388.81 6 m. Due Apl 13/85	4284 15	
Oct	20	Em N & Co $686 $\frac{16}{}$ 4 m Feb 23 1885	672 13	

1889		Carried forward		
Nov	9	$3000 3 m Feb 12 1889		
		E.H.J. to C.B.		
Nov	9	E.H.J. to C.B.		
		$2000 4 m Mch 12 1889.		$4916.67

Safe Deposit Vaults

		Put in	Taken out
May 1884			
1	Deed of Lot in Menlo Park.		
2	Deed of Lots in Port Huron		
3	Deed of property in Newark N.J. bought from Peter Campbell.		
4	Deed of House and Lot in Menlo Park.		Taken out Nov 1886 & sent to Mendly Nov. 15th 1886.
5	$22000 in 4½% Govt bonds to Chas Batchelor		1884 Sept 30 $4000 taken out & sold " Oct 8. $2000 taken out " $5000 sum. 2 certs. 1000 " $1,000 taken out March 31st 1886
6	$2000 in 4½% Govt bonds to Roanna Batchelor		
7	$18000 in 4½% Govt bonds to Roanna Batchelor		$5000 taken out Jan 17 1889. 13000 " " June 27 1884
8	Commercial Fire Insurance Policy $1000 House 1000 Furniture on House at Menlo Park		Taken out Nov 5 1885 & sent to Wood (insurance Agent)
9	200 Shares in one certificate of Edison Machine Works		Taken out May 19th 1886
10	100 Shares in one certificate of Bergman and Co		Taken out March 31st 1886.
11	3 Bonds $500 each of the E.E. Light Co of Europe Limited		Taken out Jan 17 1889. & sent to Carter
12.	5 Shares of Speaking Monograph Company		
13	10 Shares in one certificate of the Edison Lamp Co Value each $2500—		Taken out by me March 9th 1885 — sold to Brown.
Aug. 1884			
14	Certificate No. 16709 for 5 Shares in the Panama Canal.		

Safe Deposit Vaults

15	Certificate 398 54 Shares in The Odium Company for Isolated Lighting			Chas B.
16.	Certificate 122.	100 Shares	E.E. Light Co. & C.B.	
17.	" 233.	1 "	" " " " " "	
18	" 800	1 "	" " " " " "	
19	" 798	1 "	" " " " " "	
20	" 719	3 "	" " " " " "	
21	" 788	5 "	" " " " " "	
22	" 789	5 "	" " " " " "	
23	" 786	5 "	" " " " " "	
24	" 796	5 "	" " " " " "	
25	" 794	5 "	" " " " " "	
26	" 793	5 "	" " " " " "	
27	" 795	5 "	" " " " " "	
28	" 797	5 "	" " " " " "	
29	" 2864	1 "	" " " " " "	
30	" 257	3 "	" " " "	& Frank B.
31	" 258	3 "	" " " " " "	
32	" 801	3 "	" " " " " "	
33.	" 7.	2850 Shares of the Oriental Telephone Co Limited		
34	Certificate 36	for 100 Shares	E.E.L. Co. of S.F.	Chas B.
35	" 32	" 100 "	" " " " " " " "	
36	" 33	" 100 "	" " " " " " " "	
37	" 34	" 100 "	" " " " " " " "	
38	" 532	" 6		
39	537	" 17		
40	648	5		
41	649	5		
42.	650	5		

Jan 11 1887 Taken out & sent to The E.E. Light Co. for transfer —

Delivered to S Durne Apl 1st 1885 (loaned)

All taken out Jan 29 1887.

Delivered to Winslow Lanier & Co — Nov. 24 1886.

~~Delivd to S Durne Apl 1st 1885~~ — Taken out Nov 1886

" " " "

" " " "

" " " "

Taken out Nov 1886.

Transferred to Elie Lion & sent Paris Sept 17th 1886 17 Shares

Taken out Nov 1886

" " " "

" " " "

43	Certif.	651 for 5 Shares	E. B. L. Co E. Lim (Chas H)	
44	"	652 " 5 "	" " " " " "	
45	"	661 " 1 "	" " " " " "	
46	"	662 " 1 "	" " " " " "	
47	"	663 " 1 "	" " " " " "	
48	"	664 " 1 "	" " " " " "	
49	"	665 " 1 "	" " " " " "	
50	"	666 " 1 "	" " " " " "	
51	"	667 " 1 "	" " " " " "	
52	"	668 " 1 "	" " " " " "	
53	"	669 " 1 "	" " " " " "	
54	"	670 " 1 "	" " " " " "	
55	"	767 " 10 "	" " " " " "	
56	"	768 " 10 "	" " " " " "	
57	"	769 " 10 "	" " " " " "	
58	"	771 " 10 "	" " " " " "	
59	"	772 " 10 "	" " " " " "	
60	"	773 " 10 "	" " " " " "	
61	"	774 " 10 "	" " " " " "	
62	"	775 " 10 "	" " " " " "	
63	"	776 " 10 "	" " " " " "	
64	"	777 " 10 "	" " " " " "	
65	"	778 " 10 "	" " " " " "	
66	"	779 " 10 "	" " " " " "	
67	"	780 " 4 "	" " " " " "	
68	"	781 " 10 "	" " " " " "	
69	Certif.	11 for 5 Shares	Electric Lube Co Stock	Taken out May 19th 1886
70	"	13 for 5 "	" " " "	" " " " "
71	Certif.	7 for 200 Shares	Edison Mach. Works Stock	" " " " "
72.	Letter of Winslow Lanier & Co acknowledging receipt to Co of Oriental Telephone Share.			Taken out Oct 14th 1886. & del. to S. Emmet.

73.	Electric Lube Co Certificate of indebtedness of $800 payable to Charlotte Helm

Cell taken out Nov 1886

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Nov. 1884			
73.		Electric Tube Co's certificate of indebtedness $800 payable to Chas Batchelor	Taken out May 19 1886
Feb. 1885			
74		Policy 726502. in Mtl Ins & Mercantile of London for $5000 expiring Feb 5 1885 — on furniture at 214 & 18th St.	Taken out Mch 19 1885.
Apl 9 1885			
	75	Certificate 3610. for 10 Shares Edison Electric L. Co.	Taken out Jan 29 1884.
	76	" 3641 " 10 " " " " "	
	77	" 3642 " 5 " " " " "	
	78	" 3643 " 5 " " " " "	
	79	" 3644 " 5 " " " " "	
	80	" 3645 " 5 " " " " "	
1885 Apl 9	81	Certf. 16. for 5 Shares Edison Lamp Co.	Taken out Nov 5th 1886.
May "	82	Certf. 3650 for 4 Shares E. E. Light Co. R. B. C.B.	Taken out Jan 29 1884
	83	" 3651 " 73 " " " " "	
	84	" 3671 " 5 " " " " "	
	85	" 3672 " 5 " " " " "	
	86	" 3673 " 5 " " " " "	
	87	" 3674 " 5 " " " " "	
	88	" 3675 " 5 " " " " "	
	89	" 3676 " 5 " " " " "	
	90	" 3677 " 5 " " " " "	
	91	" 3678 " 5 " " " " "	
	92	" 3679 " 5 " " " " "	
	93	" 3680 " 5 " " " " "	
	94	" 3681 " 5 " " " " "	
	95	175 Shares E E Llg Co property of the Edison W. Wks	Lost out 30 Nov 5 1885 — Jan 23 1886 Lost out 125 Shares — Delivered to Em. N.

1885 July 28	96	Relcan S.A.E. 5 C/B for £ 11.313.8.7		
"	97	25 Shares Edison Telephone Co of Europe Limited		
"	98	238 Shares to Railway Telegraph & Telephone Co		Taken out Oct 8th 1885
Jan 1886 31st	99	Certf. 209 for 40 Shares E.E. Light Co stock N.Y.		
"	100	" 340 " 45 " " " " " " "		All Rosanna Batchelor
"	101	" 41 " ½ " " " " " " "		
"	102	" 2 for 1192 " to Edison Machine Works		Taken out Mch 10 1888
"	103	" 4 " 31 " " " " "		Chas " " " "
"	104	" 9 " 8 " " " " "		Bishop " " " "
"	105	" 13 " 124 " " " " "		" " " "
"	106	" 9 " 100 Shares of American Railwaiger Co		
"		" 2 for 40 " " Taylor Gas Co Stock		Taken out Apl 20 1889
"		" 13 " 13 " " " " "		Taken out Apl 20 1889
"		~~Certf 13. 100~~		
		Certf 5 for 50 shares Interest N.W. El & Tel Co.		Taken out May 18th 1887.
Feb.	14	Certf 449 for 46 Shares E.E. Light Co	C/B.	
"	"	" 448 " 22 " " " "	C/B.	
"	"	" 456 " 41 " " " "	C/B.	
"	"	" 195 " 38 " E.R.C. & O.S.	C/B.	
"	"	" 17 for 20 " Taylor Co.	C/B.	Taken out Apl 20 1889.
"	14	" 318 " 69 " E.E. Light Co of Europe Ltd		
"	"	" 344 " 10 " " " " " "		
"	"	" 343 " 10 " " " " " "		
"	"	6. 1063 B Shares. E. & Lond. United Electric Light Co London.		
"	"	" 914 10 " E.E. Ltg. Co	C/B.	
"	"	" 949 10 " " " "	C/B.	
"	14	" 42. 133 Shares E.R. & O.S.	C/B.	
"	"	" 41 " 33 " " " " "	C/B.	
"	"	" 961 " 15 " E.E. Ltg. Co	C/B.	

1889

Feb 14	Certf. 20. for 44 Shares Edison Lamp Co. R.B.		
" "	" 21 " 1 " " " 1 " C.B.		
May 16.	Abstract of Title 144 Plane St Newark N.J. also Deed of same		
" "	Key 'Will' —		
" "	Australian E.L. Power and Storage Co. #0173 ordinary Shares — 393 Shares D 173 Deferred " — 393 " in name of Chas Batchelor		
" "	Certf. #5 for 102 Shares Taylor R.C. C.B.		
	" #6 " 2/100 " " " C.B.		
" "	" #34 for 100 Shares of Prague E.K. & M. Co.		Taken out Jan 1888
" "	" 33 " 100 " " " " " " "		Taken out Jan 1888
June 24.	Certf. #5 50 Shares Railway El. International		Taken out Oct 25 1889
	" 424 50 " Edison Ore Milling		" " " " "
	" 425 10		" " " " "
	" 426 10		" " " " "
	" 427 10		" " " " "
	" 428 10		" " " " "
	" 429 10		" " " " "
	" 850 50 E.E. Light Co. of Europe (Lim)		
	" 319 62 " " " " " "		
	" 24 33 Shares Sun Edison Electric Exper Co		Taken out Jan 1888.
	" 9 5 " "		
1889	Scrip #245 — E.E. Illuminating Co of Newark		
Mch 19	Cert. 25. 500 Shares Edison Machine Works		
	Fire ins. Policy 141646 Mfr's & Builders N.Y. $2000 on Pk Bldg. 144 Plane St Newark N.J. Expires Jan 15th 1889.		

1891

~~Mch~~	~~19~~	~~Policy Guardian Ass. of London. Furniture~~	
Mch	19	Mfg & Builders of N.Y. 133066 Policy Menlo Park house $1000 expires Jan 24 1892	
"		German Am. Ins Co. N.Y. 263241 Menlo Park house $1000 expires Dec 30 1889	
"		Certif. 1519. 60 Shares Edison Electric Light Co in name of R.B.	

2114

#

1899 81

Nov 6 Helens rent Oct Voucher 26

The Eleventh Ward Bank.

				Dr	Cr
1884					
Dec	8	Note to Collect Isolated	J	$1500.00	
"	12	Check E.M.W. 500 Lunday $15	J	315.00	
"	12	Note Dis. 1158 84 12 55	J	1146.62	
"	13	Check # 100 E.M.W.	J		1000.00
"	13	" 101 Patterson Bros.	J		16.24
"	15	" 102. Stein Leather.	J		75.00
"	16	" 103. Evans.	J		35.00
"	17	" 104 P. J.	J		50.00
"	18	Check Wickham Co.	J	256.29	
"		" 105 Stein Bros.	J		132.00
"	19.	Isolated Note for E.M.W. $500 2 mo.	J	1484.00	
"		Check. 106 E.M.W.	J		850.00
"	20	" 107 W. & J. Sloane	J		500.00
"	20	" 108 Benton	J		20.00
"	20	Note of Isolated to Collect	J	500.00	
				$5201.85	$2678.24
"	21	Check. 109. Jacoby.	J		131.00
"	24	" 110 E.M.W.	J		1473.00
"	24	" 112 E.M.W.	J		450.00
"	"	" 112 E.M.W.	J		100.00
"		Note Isolated	J	1300.00	
				$6501.85	$4772.24
Dec	31	Check 113 H. Merritt	J		133.33
"		" 114 Gas Co.	J		9.45
"		" 115 E.M.W.	J		800.00
1885					
Jan.	2	Note Isolated disc.t $500 —	J	989.66	
"	2	Gr. Checks. $130. Fees	J	140.00	
"	3	Check. 116 E.M.W.	J		800.10
"	5	" 117 E.M.W.	J		250.00
				$7631.51	$6765.02

				Dr	Cr
1885		Brought forward		$7631.51	$6765.02
Jan	5	Check 118 G.W. Read.	J		18.80
		" 119. J. Hall.	J		34.60
"	9	" 120 Bauman Bro.	J		350.00
"	"	" 121 Degraaff & Taylor	J		35.00
"	10	" 122 E.M.W. E.P.	J		100.000
"	"	Checks. 494.90 5.60 350.00	J	850.50	
		122 bid		$8482.10	$6803.42
"	10	Collection. Place.	J	405.77	
"	12	Check 124 J. Emmer	J		23.40
"	"	" 125 Geo Q Ward	J		5.00
"	"	" 126 W. & J. Sloane	J		25.000
"	10	Dr. 1000 $1000 Int. 11 12	J	965.83	
"	7	~~Collection Place Duplicate~~		~~$56.77~~	
"	12	Check 127 Nassau Bank E.M.W.	J		101.24
"	20	" 129 W. & J. Sloane	J		230.25
"	20	" 128 Sept Deposit	J		15.00
"	"	" 130 Consolidated Gas	J		16.27
				$9423.70	$9245.18
"	20.	" 131 E.M.W.	J		700.00
"	16	Note Acceptd 595.06 4 67	J	590.57	
"	31	Collection. Isol. Co.	J	1200.00	
Feb	3	Cash	J	2158.00	
"	4	Check. Fulton Bank. 132	J		135.53
				$13164.27	$11482.71
"	11	Check 132. Fulton Nat'l Bank	J		166.22
"	12	" 134 John Koch.	J		1000.00
"	18	" 135 E.M.W.	J		499.11
"	20	" 136 Carl Waring	J		45.00
"	21	" E.M.W.	J	760.77	
				$13653.04	$13193.04

Eleventh Ward Bank

			Dr		Cr	
1885		Brought forward –	14633	00	13193	04
Feb	25	Check. 137 W. Goepel.			2	00
	26	" 138 Erie Gas Co.			18	37
"	26	" 139. E. Cliff Br.			473	34
"	26	Note Protested. Geo Roach	1500	00		
		" Foster.	200			
"	28	Check. 140 Hiram Merritt.			133	66
			16333	04	$13828	41
			13828	41		
			$2494	63		
Mch	2.	Check 141 Sacred Heart			237	50
"	"	" 142. E.M.W.			127	00
"	4	" 143 St. Ursul.			50	00
		Interest on Foster note	3	17		
	5	West E. L. C. note to collect	190	00		
"	6	Check 144 E. Cliff Co.			199	23
"	7	Check for Tax.	2000	00		
		Check 145			187	46
			6397	00	4058	26
	11	" 146. H.M. Curr			203	80
		" 147 Hall Shor & Clatter Bk.			201	45
		" J. H. Lile			75	00
	15.	" 148 Mutual Life Ins Co			105	00
	19	" 149 E.M.W.W.			500	00
	17	Slag Co Check.	5	00		
		Lamp C. "	1250	00		
		E. M. W. "	1000	00		
		E. M. W. "	25	00		
		Shirin "	34	35		
Mch	20	Check. 150 E.M.W.			1395	00
			8412	15	6668	49

			Dr		Cr	
1885		Carried fo'd	8412	15	6668	49
Mch	23	Check. 151 Bauman Bro.			21	25
		" 152 W. & J. Sloane			7	91
	23	" 153. Charts.			100	00
	31	" 154. C. Goo C.			12	95
		155. H Merritt			133	00
		160. Bauman Bro			114	00
		151 E.M.W.			400	00
"	"	158 E.M.W.			1000	00
"	31	Cash. Bergman $800 Yanz $10	810	00		
"	"	Check. 156. C.B.			100	00
			$9522	15	$8757	60
			8757	60		
		Balance Apl 1st	764	55		
Apl.	2.	Checks $16.43 " $110, $20	146	43		
"	4	Check. 156 C.B.			25	00
	9.	Check. $70. $150	220	00		
		Sect: Note $1000 2 M. 10%	989	50		
	16	Note W. E. C. $2468.23 3 m. 8%	2421	65		
	16	" Sect. 4/13th collection	415	91		
	18.	Check. 162. Nat. Park Bk.			1057	36
	"	" 163 J. Merkel			25	00
	"	Check $100 " $100	200	00		
	21	Check.	500	00		
		Check 165 Geo C.			12	60
	23.	" 164 Dorsey Kepler			100	00
		" 166 Bauman Bro.			462	1
	30	" 167 E. & J.			30	00
		" 168 C.B.			150	00
		169 E.M.W.			1800	00
			$5645	14	$3220	23

Eleventh Ward Bank.

			Dr	Cr
			$5643 14	$3220 23
Apl	30	Note Ind.	1293 07	
May	1	Check 172 C.B.		100 00
"	4	" 170 J. Merkem		25 00
		" 171 E.M.W.		400 00
"	7	" 173. E.S. Mfg Co		488 33
"	9	Note for collection 149. 40 Drawer Known		
"	"	Check. 174 E.S. Mfg. Co.		201 43
Apl.	13	Check 161 C.B.		100 00
			$6937 21	$4534 99
			4534 99	
		Balance May 11 Correct with pass book	$2402 22	
May	13.	Check.	409 75	
"	11.	Check. Ann Int Ledg		1 33
	13	" Chas B.		100 00
"	14	" 177. E.M.W.		350 00
"	16	" 178 E.M.W.		600 00
"	16	" 179 Chas J. Merkelbach		35 00
"	18.	" 180 J. Ernst.		100 00
"		Collection 14	1491 40	
"	19	Check 181 De Graaff & Co.		223 00
"	21	" 182. Am. Gas Co.		10 67
"	"	" 183. C.B. for E.M.W.		500 00
"	"	" 184 " " "		500 00
"	21	" 185 E.M.W.		900 00
"	23	" 186 C.B.		100 00
"	"	" 187 E.S. Mfg. Co.		500 00
	28	" 188. E.M.W.		498 91
	30.	" 189 E.S.J.		57 25
		" 190 H. Merkel		139 33
			4283 37	3989 49

			Dr	Cr
		Carried forward	$4383 37	$3989 49
June	4	Check. 191 S.A.E.		994 17
		" 192 E.M.W.		727 87
May.	22	Note $2405 W.E.L. disch.	2376 55	
		Note Int. Collected	1381 37	
June	5	Check 193 C.B.		100 00
"	8	" 196. Baumann Bros		75 00
		" 197 Chas G. Campbell		1 00
"	8	Acceptance Geo Flea	202 32	
		Check	200 00	
	9	Check 194 J. Merkel		25 00
"		Disct on Disc. Note $1041.00	10 30 12	
	11	Check 195 E.M.W.		74 270
	12	" 198 C.B.		100 00
	13	" 199 E.S. Mfg Co		400 00
	13	" 200 E.M.W.		1300 00
	15	" 201 Am. Gas Co.		8 57
	15	" 202 Caster Ins Co		300 00
		" 203 E.M.W. Hinckley Tr		305 90
		" 204 E.M.W. Andrews		500 00
	16	Checks. E.M.W. 13.40 E.S.J.C. 250	263 40	
		" E.M.W.C.	100 00	
		" 205 E.M.W.		400 00
	18.	Checks. $971 11 $90 66	1062 57	
		Note Int. # 2 m. acc. rebate	794 27	
		Check. 206 E.J.A. for E.M.W.		50 00
	19	" 207 E.M.W.		50 00
	20.	8 Insc. 790 66 S.A.E. 750 00	1540 68	
		" 208. C.B.		100 00
		" 209 E.M.W. exchange for		1540 68
			$11,284 95	$11,195 38
			11,284 95	11,195 38

Eleventh Ward Bank — Dr / Cr

			Dr	Cr
		Brought for	$13,228.95	$11,452.38
		Note Sect. #26 62 Disc:	81.23	
June	21	Check. 210 E.M.W. (Premium)		150.00
	23	Note Sect. C. 297. $1000.	1000.00	
	26	Note Sect due June 26th.	1269.07	
	29	Check. 210 J. Healey		65.00
	29	" 211. C.B.		100.00
July.	2	" 215. H. Merrill		13.33
		" 212. C.B.		20.00
			$16,572.25	$12,100.71
July	3.	Checks $1000, $33	1003.33	
		" 216 C.B.		150.00
"	15	" 217 E.M.W.		150.00
		218 " " "		360.00
	17	219 " " "		950.00
		225. Cin Gas Co.		6.82
		226. Bauman Bro.		65.00
	17	Note Sect. C. & E.M.W. for disc $1032.00	1021.58	
	20	H. Check.	50.90	
	22.	Check 218 E.M.W.		400.00
	24	Note Sect. C. 635.22	631.62	
	"	" Sub C. $1000	994.35	
	24	Cash. 220. E.M.W.		550.00
	25	Check. 222. E.M.W.		900.00
	27	" 223 C.B.		800.00
	29	224 Jos. F. C. E.M.W.		100.00
	29	225 C.B. " "		21.00
	29	229 Mannich " "		11.00
	29	Sect Note Collect.	444.94	
	30	Check. 227. E.M.W.		700.00
			$20,514.99	$18,064.05

			Dr	Cr
		Carried forward	$20,514.99	$18,064.05
July	30	Check 230 C.B.		100.00
Aug.	1.	" 231 H. Merrill		133.33
"	6	Check. $100 J.A.R. J. Shift & C	10.00	
	13	Check 232 F. Hastings Jr.		114.00
"		" 233 E.M.W.		600.00
	19	" 234. C.B.		50.00
	20	Note disc'd $1160.93 $1150.00	23.15.80	
"		Check 235. E.M.W.		130.00
		" 236 C. Shift & C.		72.92
		Collection 10th Attorney H.P. Mc	20.68	
		20th Sect. C.	8.00.00	
	23	Check. 249. Am. T. Tel. C		1.58
	24	Collection. Sect. C.	13.11.13	
"	27	Check. E.M.R.	20.00	
"		Check 237 E.M.W.		160.00
	28	" 238 C.B.		100.00
	"	239 E.M.W.		50.00
	29	240 E.M.W.		1000.00
	30.	Collection	81.15.16	
	31	241 H. Merrill		133.33
		242 Ottinger		0.50
Sept	1.	Check.	89.54.7	
Aug.	28	Disc'd 164.21	77.67.13	
Sept.	2.	Gas 212 50, Int C 100	302.50	
	3	Check. 243 E.M.W.		100.00
	4	" - Bergman	600.00	
			$29,043.24	$26,927.19
"	5.	~~Note Sect C. & E.M.W. 1000 each 500 & 129~~		
	4.	Check. 244 E.M.W.		500.00
			$29,043.24	$26,427.19

Eleventh Ward Bank

1885			Dr	Cr
		Carried forward.	£29,043 24	£26,427 19
Sept	14	Check. 245 C.B.		500 00
"	21	" 251 Consolidated Gas		4 37
	4	Incl note for Acct £1000	989 67	
	11	" " " " £1000	989 50	
	22	Check. 246 Vulcanized Fibre Co		31 97
"	24	" 247 S.A. Cockey		40 16
"	"	" 248		820 00
			£31,022 41	£29,113 69
"	25	Check. 250 Life Ins		105 00
		" 252 Murray & Drury		60 00
	29	" 253 C.M.W.		995 32
Oct	1	" 254 H Merritt		128 33
		Check 602 39 Grot £110, £25	737 39	
		" C.M.W.		994 19
	3	Check. 187 50 L.C., 20 Gr. £50 100	307 50	
		Check. 255. C.S.M.C for C.M.W.		125 00
		" 256 C.B.		100
			£32,067 30	£31,620 51
July	24	Check 271 C.B.		50 00
Oct	5	Check. 257 C.M.W.		794 57
"	5	" 259 "		50 00
"	6	Check. 258.	789 07	
"	8	Check. 260 C.S. Mfg Co		400 00
"	6	Note Incl C & C.M.W. (Incl)	995 33	
	12	Check. 17 15, 200, f	224 45	
	12	Check. 261 Sacred Heart		19 2 32
	16	Check 262 S. Odum		150 00
		" 263 Hilleard		140 00
	17	" 264 Insurance for Stock		5
			£34,076 97	£32,712 42

			Dr	Cr
		Carried forward.	£34,076 97	£32,712 42
Oct.	19	Check. J Merkle		27 50
	21	Note of Incl to Collect £373	700 00	
	26	Check. 265 Consolidated Gas.		7 00
	29	" 267 Mitchell Vance		3 00
		" 268 H Merritt		133 33
	31	Check £200, £9, 17, £11.67, £17.50	237 14	
Nov	4	Checks 269. Chimnock		60 75
		Note Incl. Co Ins 2d	1295 55	
			£36,312 46	£32,971 00
Nov.	4	Check. 270 Ottiwell		11 00
"	5	" 271 Merkle		50 00
"	6	" 272 Scanlon		335 40
	9	" 273 M Freeman		30 88
	13	" 274 B.R.R.(F.H.)		114 00
	13	" 275 R Glasgow (Sec)		19 10
"	15	" 276 Dyer Ins Sales		65 00
"	"	" 278 C.M.W. Mks.		700 00
	16	" 279 C.B.		70 00
	20	" 275 Gas.		11 72
	"	" 277 A.L. Healy Thos		50 12
	24	" 280 Bauman Bros		77 25
		" 281 F. Beck & Co		150 00
	21	" 282 Gustave Ohnert		105 00
	21	Note Incl Co. & C.M.W.	700 00	
	25	Check 283 J.W. Lee		100 00
	26	Note Incl Co.	500 00	
	"	" " "	500 00	
	28	" " "	100 00	
"	25	Check. Sam Jones 284		200 00
			£39,012 46	£35,112 67

Eleventh Ward Bank.

			Dr	Cr
		Carried forward	$39,012 46	$35,172 67
Nov.	30	Check. 286 W S Perry		150 00
"	"	" 285 H Merritt		133 33
Dec	1	" 287 Baumann Bro.		65 00
"	"	" 288 C H J.		23 00
"	3	" 289 Dyer & Seeley		28 85
"	"	" 290 W J. Sloane		93 45
"	4	" 291 Em W.		490 00
		Checks. $84, $202.50, $600, $300	1186 64	
			$40,123 13	$37,506 30
"	5	Check 293 Am Bro. Lel. Co		2 98
		" 292 C Shft Co		70 00
"		" 294 J. B Otterson		7 98
"	10	Gen Place note.	575 58	
	6	Check. 296. C Shft Co		278 74
"	12	" 297 G G. Ward		5 00
"	"	" 298 Mech. Eng.		1 00
"	"	" 299 Van Nostrand		3 38
"	14	" 300 H M Lum (excl)		370 00
"	15	" 301 C B J for myself.		250 00
		Checks. $30 - $9.15 - $8.14 -	307 90	
	16	" 302 J. M. Fisher		8 00
	"	303. Cons. Ga. C		1,662
			$41,056 61	$38,354 01
"	19	Check. 304 C. M. W.		1000 00
	22	" 305 Harper Bro.		550
	24	" 306 C B.		300 00
	26	" 307. Baumann Bro.		425 00
	19	Note Burr & Shft Co	7 29	
	26	Isolated note 409.	500 00	
			$41,660 90	$40,266 57

Eleventh Ward Bank

1895			Dr	Cr
Dec.	26	Carried forward	$41,660 90	$40,266 50
"	"	2nd Note 455.	492 40	
"	"	" " 411	834 60	
"	28	Check. 308 Degraaff & Taylor		50 00
1896 Jan	1	Check. 309. H Merritt.		133 34
	2	" 310 Em W.		100 00
	4	Checks. $50, $10, $20, $5.40	85 40	
			43,373 30	41,884 84
Jan	6	Check. 311 Em W		500 00
"	11	" 312 Cavanaugh & C		1 92
	"	" 314 Van Nostrand		6 38
	"	" 315 Dist. Tel. C.		3 62
	"	" 316 Glasgow (Lee)		6 10
	11	Checks $100 $6	106 00	
			43,479 30	42,433 46
Jan	18	Check $51 A.B.T. Cm $1700	1751 00	
		Check 313 317 W. S. Perry		231 50
"	21	Coll. Cumberland note	1467 4	
"	23	Check from Lump C	250 00	
		Note of Bellefonte	250 00	
"	25	Check. 317 Safe Deposit Co		15 00
		" 318 Dist. Gas. Co		22 75
Feb.	15	" 319 L. A. E. for Mt. Ck		1000 00
"	2	" 321 Merritt Rent		133 33
	"	" 321 Bradley & Co (Ord)		7 50
	"	Checks $125 (Sh. div) $100 Sec.	225 00	
	4	" 322 C B.		100 00
	8	" 323 Mitchell Vance & C.		8 20
	9	" 324 Berner (Certain)		210 00
	15	" $12 Chf, + $10 Illg C.	112 00	
			$46,214 04	$43,913 54

Eleventh Ward Bank

			Dr	Cr
1886		Carried forward.	$46,214 04	$45,713 54
Feb.	15	Note Orwell.	400 00	
"	16	Check 325 Chenoweth		8 00
"		Note Geo Place.	350 00	
"	23	Check 326. Nicol & Co.		204 00
		" 327. Ogden & Taylor		150 00
			$46,964 04	$46,247 54
"	23	Checks £230, $ ¢	248 00	
		" F.R.O. £100	100 00	
		Check 328 J H Vail		7 00
		" 329 Cash.		150 00
	26	" 330 Chr Sol. Gen.		16 89
"	26	" 331 Murray & Denny		48 00
	26	Cash $350, 24¢ check $105	535 00	
			$47,847 04	$46,469 34
Mch.	1	Check 332 B.P.W. & Hart		114 00
"	"	" 333 M. L. Inc. Co. N.Y.		105 00
"	1	Note Dieter & Sept. C. Mch 11	200 10	
		" William T Barnard & Sept. C Mch	155 02	
"	1	Check 334 Scott & Woodward		29 20
"	"	" 335. B.P.W. for Clerk		110 00
"	"	Check $100, £10.50, $23.	128 50	
			$48,531 66	$46,827 54
Mch.	3	Checks 336 H Merritt (Kent)		133 33
		" 337 Taylor T.C.		600 00
		Checks $20 Edwards £20 Emery	41 00	
"	6	" 339 Merklen		50 00
"	8	" 338 Ogden & Taylor		393 00
"	9	Check.	250 00	
	11	" Bergmann	600 00	
			$49,421 66	$48,003 91

			Dr	Cr
		Bt forward	$49,421 66	$48,103 92
Mch	13	Checks. £157 50 $22 73	181 23	
"	15	" 340 Taylor T.C.		1000 00
"	17	Checks	3000 00	
"	18	" 341 E.M.W.		1500 00
"	"	" 342 " "		1200 00
"	22	" 343 Nottler T.S. (Check)		7 50
"	"	" 344 Ice Co.		1 10
"	"	" 345 Gas Co.		10 35
"	"	" 346 Tiffany T.C.		412 00
			$52,602 89	$52,428 87
Mch.	22	Checks £100. $30.07	130 07	
"	31	Note Geo. Place aft 5.	500 00	
Apl	1	Checks £10. $250.	360 00	
"	3	" £20, $100, $6.51 –	126 51	
"	6	" 347. Van Nostrand		3 43
"	6	" 348. E.M.W.		1000 00
"	10	" 349 Conn Stat.		3 52
Jan	29	Collection Bellefonte. "63 B. Cumberland" 35		98
Apl.	14	Check. £96 $ ¢ $73.	112 73	
			$53,832 20	$53,436 84
Apl.	19	Check 350 Con. Gas Co.		1 41
		" 351. Chenoweth & Co		50 00
		" 352. Bishop D.P.		97 00
"	24	" $4,444, £2000, $50.	70 44	
		Incl. Note $52. May 5	760 74	
"	3.	Checks $100, $95, $16 42	151 42	
"	4	Check 353 L. Taylor T.C.		20 53
"	5	" 354 S.B.		58 00
		" 355 E.B.C.		200 00
			$54,818 80	$53,873 94

11th Ward Bank.

				Dr	Cr
1886.					
May	8	Check.	360. Putnam Bros	$548.18 80	$53,897 54
"	"	"	361 Degraaf & Taylor		2 56
		"	362 Ann Arbor Ld. Co.		17 00
		"	363. Geo. Gas.		3 41
"	17	"	364. Ottiwell		9 62
"	"	"	365 C. P. Chumnoch		13 50
"	"	"	366 J. B.		50 00
"	"	"	367 B.H.J.		150 00
					30 00
				$548.18 80	$54,149 63
	21	Check.	356 C.M.W.		350 00
	26	"	357. W. Mann & Son		12 00
"	"		358 Taylor & Co		38 75
"	29.	Check	1	420 00	
June	1	Check	368. H. Merritt		133 33
		Check.		202 50	
"	4	"		100 00	
"	"	"	369. Bradley & Co		6 00
		"	370 Geo G. Ward		5 00
"	5	Check		500 00	
				$5,604.18 30	$54,694 71
"	23.	Check.	358. C.P.		100 00
"	24	"	373. Theis		100 00
"	26	"	374 C.M.W.		900 00
July	1.	"	375 C.M.W.		126 37
"	7		376 H. Merritt		133 33
"	8	Checks	$250, $20, 14.26, 67.	316 13.	
"	12	Checks.	$96. $39.40 $15	131 15	
"	14	Check.	377 A. Sci. Lee Co		4 50
"	19	"	378 R. A. Mann		103 00
				$5,648.19 18	$5,61,161 91

11 Ward Bank

				Dr	Cr
		Carried forward		$5,648.19 18	$5,61,161 91
July	28	Cash.		154 00	
"	"	Check 379. Anderson & Ryan			100 00
"	30	" 380 Bradley & Co			6 00
"	31	381 Gas Co			3 25
Aug	2	Check		350 00	
"	3.	Check		200 00	
"	4	Check 382 Hilliard			65 00
"	"	" 383 J. H. (for self)			50 00
"	7.	Check. 385 C.P. for me			100 00
		" 386 C.M.W. Exchange			160 38
	13	Checks $128.05 to C.M.W.		195 00	
"	22	Check		320 00	
				$5,396.18	$5,648 74
"	26.	Check 390 Dyer & Seely			402 93
		" 391. Mann & Son			3 25
Sept	1	" 392 Mutual Life Co			100 00
"	1	" 393 H. Merritt			133 33
Aug.	26	Cash		750 00	
Sept.	4	Check. 387 C. Bergen for me			100 00
"	"	" 388. A.H. Milner			22 00
"	"	" 389 Gas Co.			2 62
"	7.	" 396 Canaher & Co			4 00
"	9	" 395 Hilliard			9 00
"	14	" 394 Dyer & S. for C.M.W.			50 00
"	16	Cash		500 00	
"	17	Check. 397. Self			100 00
"	25	Check 399 Mr. C.M.W.			800 00
"	28	" 400 Knickerbocker Ice.			8 24
Oct	2	Cash. $88.96 $200 - $44.89		383 95	
				$8,030 13	5847 60

			Dr	Cr
		Carried forward	$59,050 13	$58,472 00
Oct	2.	Check. 401 Merritt		133 33
"	9	" 402. Am. Ex. Tel. Co.		3 80
"	18.	Cash 1135 Sh. @ $1.50 - $1.00 - 17.00	1,589 34	
"	19	Check. 403 Mad. Sq. Bank		1000 00
"	23	" 404 Manning Freeman		38 25
"	"	" 405 Cameron & Frost		135 00
			$60,639 47	$59,782 41
Oct	29	Cash	20 00	
		Note of Reed & Collect	305 00	
Nov	1	Check $923 Sh @ $35	356 82	
"	3	Check	30 000	
"	"	Check. 407 Am W.		39 14
"	"	" 408 Merritt		133 33
Oct	28	" 406 Rupeter		12 50
Nov.	6	Cash	70 000	
"		Cash 411 Self.		10 000
"	7	Check. 409. Gas		8 00
"	8	" 412. Self		100 00
"	12	Cash	100 00	
"	12	Check 410 Self.		200 00
			$61,472 99	60,375 38
"	15.	Check 413 Murray & Drury		97 00
"	19	Cash	225 50	
"	"	"	600 00	
"	20	Check. 414 Am W		684 69
"	23	" 415 Taylor & Co		148 70
"	24	Collection Lawson Mor. 1/4 $450	463 34	
Dec	2	417 Bradley Co. St		8 50
"	"	418 Gas 419 Keuffel & Co		21 37
			$63,361 36	$61,925 69
				80

			Dr	Cr
		Carried forward	$63,361 36	$61,925 69
Dec.	6	Check. 420 J. Beachem		96 00
	"	421 Dyer & Seeley		187 00
	"	422 Chas. G. Pelz		820 6
Nov	27	" 416 Chas G. (Pelz)		20 000
Dec	10	" 427. Stern Bros.		82 55
"	"	" 423. Patterson Bros.		101 25
"	"	" 424 Geo. Lee.		1 72
"	"	" 425 C.B.		100 00
"	"	" 426 Cornell Chas.		14 00
		427 H Merritt		133 33
			$63,361 36	$62,743 63 74
"	14	" 428 P.H. Fisher		8 00
"	"	" 429 Chas J.		24 00
"	22	Check R.B. disc. $1650 $1646	1646 70	
"	"	Check 431 A. Bergman		2600 00
"	18	" 430 J.B. Crooke & Co		20 50
		Collection Lawson $65.16	62 97	
1886			63,691 03	65,416 13 24
Nov	26	Check 446 ~~Chas J.~~		~~24 00~~
June	22	" 371 Murray & Drury		106 25
"	22	1901 diff 3/2 Gas C		6 12
			63,691 03	65,528 61
			65,528 61	
		Balance Jan 12 1886.	162 42	
Jan	29	B.B. & C. Note int	2143 22	
"	"	Sect Wm. col	1846 25	
"	"	Check. 432. J.F. Hurlbird		33 00
Feb	1	" 433. Rent for my self		125 00
"	3	" 434 J.C. Mikelson		25 00
			$4151 92	$188 00

Eleventh Ward Bank

1887			Dr	Cr
		Carried forward	$4151 92	
Feb.	4	Check 435 Geo A Leavitt		186 00
"	5	" 436 S. Bergman		161 75
"	5	" 437 Mech Eng.		17 100
"	"	438 Con. Gas.		10 00
"	"	" 439. Dist Tel Co		11 75
"	"	440 Sacred Heart		5 67
"	7	" 441 Stein Bros.		202 50
"	7	" 442. J H for mipeff		53 34
"	12	" 443 Safe deposit Co		100 00
			4151 92	984 01
"	14	" 444 D Van Nostrand		11 60
"	16	" 445 J H for me.		150 00
"	18	" 446 Dyer & Seeley		81 00
"		447 Crook & Co.		52 25
"	19	448 W H Foller for mat		75 00
"	19	449 Draughtsmen		15
"	21	" 450 Outcalt Table		52 13
"	18.	Collection. Sprague.	1000 00	
"	23	Check. 451. C.B.		1000 00
"	28	" 452 H Merritt		133 33
		Check 449 not paid 453 substituted	15 00	
Mch	1	Check 454 C.B.		200 00
"	"	" 455. Bradley & Co		7 00
"	"	456. Athletic Club		20 00
"	24	" 457 H Merritt		133 34
Apl.	1	" 458 Mutual Life Ins.		100 00
"	5	not used 459 Telephone Co		~~10 00~~
"	5	" 460 Gas Co.		16 75
"	5	461 Ice.		3 40
			5166 92	2970 11

1887			Dr	Cr
		Carried forward	5166 92	2970 11
Apl	5	462 Dist. Tel.		2 74
		463. Hoeman (Mic.)		4 00
"	7	464 Riding Acad		3 75
"	9	Checks		
	16	480 J Kuen	425 00	
			5591 92	3280 60
"	16	Check 464 Van Nostrand		4 50
"	18	Checks	561 08	
"	22	Check. 465. Sh C M W Brooklyn Water Works		133 33
"	23	Check.	465 00	
"	"	Check 467 C.B.		150 00
"	"	" 468 Barker & Co.		42 00
"	24	" 469 Sh C M W.		1300 00
May	2	" 466 H Merritt		133 34
"	"	" 470 Gas Co.		5 75
"	"	" 471 Tel. Eng.		5 00
"	"	" 472 J S Ottwell		9 05
			6605 00	6265 96
"	4	Check. Sa C. 100. Lamp 25	125 00	
"	6	" 473 Degraaf & Taylor		130 00
"	11	" 474 Gas Co.		52 00
"	16	" 475 Met Tel & Tel Co		12 00
"	16	Check. Ram exp 10 Em W. 115	215 00	
"	24	Checks. 500 Ark. 1368 Em W	513 68	
	31	" 478 Hiram Merritt		133 34
June	4	" 479 Degraaf & T.		450
		476 A Mizer		500
		477 Bradley & Co		7 50
		481 Gas Co.		5 12
			7461 68	6611 32

In Page. ~~$~~

Cassin Machine Works

1884

			Dr	Cr
		Continued from Pg 39	2486 95	2327 97
Dec	13	Check ~~$~~ 121 Emm. W.	146 62	
		" " Paid " 100	1000 00	
"	15	" to Hein Baker. C.	75 00	
"	"	Check.		75 00
"	17	Check & Duane.	35 00	
Oct	31	Salary	250 00	
Nov.	30	"	250 00	
Dec	31	"	250 00	
Nov.	21	Dividend	750 00	
Nov.	1	Note & L.A.E. Emm Dep.	500 00	
Dec	19	Cash	9	
"	"	"	600	
"	"	Interest	16	
"	"	Check 959	850	
"	"	Note Isolated		150 00
"	22	Note Chicago Co.		1900 00
"	"	Int ~~$~~ 7%	36 81	
"	"	Check. 110 H.M.	1413 00	
		" 126 Em.	450 00	
"	27	Cash & Duncan	5 00	
		Cash. check.	850 00	
		" "	1385 00	
"	"	Note Dev. C. ~~$~~ 207		595 00
"	"	Int	6 24	
"	"	Cash.	100	
"	28	Check		150 00
"	31	Int Note		100 00
"	"	Check.	810 00	
			$10618 90	$8548 01

			Dr	Cr
		Carried for'd.	$10618 90	8548 01
Dec	31	Int on note	10 54	
"	6	Check.	200 00	
Dec	26	Sundry expenses for my house. from 6 – 26.		14 41
	27	Advanced to Dunn.		1 00
	10	Cash T. Cardigan jacket ~~$~~ 2.75		3 75
	29	Advanced to Zeta.	33 50	
	29	Sundries ~~$~~ 6.25 " 27 ~~$~~ 5.25	11 50	
	30	17 Line page 39, 25.50 22 Line 236 .504		10 54
	"	Cancelling line 12. page. 236		500 44
1885.		Balance.		
Jan	2.	Int. Note 253 3 month		1000 00
"	"	Check.	954 71	
		Interest	15 29	
"	5	Check 117	250 00	
"	"	Check		250 00
"	7	" 111. G.W. Reed	18 80	
"	"	" 119 J Hall.	34 60	
"	10	Sundry expenses	9 90	
"	10	Check 494 ~~$~~ 5.00 " 559 .50 Cash .20		97 059
"	"	Check. 123	1400 00	
"	12	" 127. Nassau Bank.	101 84	
	12	Check.		1216 95
"	28	Cash		100 00
	31	Bills receivable		1058 42
		" "		312 12
Feb	7	Cash.		768 76
		"		768 71
	19	"		50 00
			13684 38	15512 66

Edison Machine Works.

			Dr	Cr
1885		Carried forw	13684 38	1551 2 66
Feb	19	Bills receivable		505 00
Jan	31	Sundry expenses	21 75	
"	"	Salary	250 00	
	29	Check.	700 00	
		"	38 2 43	
		Interest 15 29 / 5 99	21 28	
Feb	4	Check	308 25	
	5	"	153 7 53	
	18	"	49 8 11	
	13	Expenses	5 07	
	18	Interest.	5 89	
			17415 69	1601 7 66
			1601 7 66	
			$1398 03	
		Balance due Co.		
		Some items they have not given me credit for & as I commence at Feb 18 I will hold statement as follows		
Feb.	18	Balance	$1363 14	
	18	Note Isolated 282. 2 m.		41 3 71
"	"	Check.	409 57	
		Interest on note Isol. 282.	4 14	
"	22	Dec 4 Allen. O & C	78	
		" " Int. on Isolated note	14 00	
		Jan 10 Sundries	4 90	
		Feb 11 Int. on Shfty Co note 512.03	3 78	
Feb.	26	Rec. Stamps	1 50	
"	28	Cash.		500 00
		Salary for Feb.	250 00	
			2081 78	$463 71

Edison Machine Works.

			Dr	Cr
		Carried forward	$2081 78	$463 71
Mch	2	Cash. check.	127 00	
		Cash & Globe.		1 42
"	3	Note Isolated Co.		1292 07
		To Interest on same	10 07	
	5	To Check.	153 7 55	
		By Checks 168 16/100 & 168 17/100		153 7 55
"	7	Sundries	12 35	
		Cash.	174 46	
	"	Check & Stokney Bryndfcum	404 55	
			2072 76	3294 75
"	11	Check. Garvin Note	201 45	
		" Washburn M & Co.	263 36	
		Interest on Isolated note	14 91	
		Isolated note		1491 40
		Check & Lieb	75 00	
"	12	Cash	2000 00	
"	"	Cash & note	492 50	
"	"	Int on Shfty Co note	7 50	
"	"	Shfty Co note		500 00
"	14	Shfty Co note		350 00
		Shfty Co note		350 00
		Interest on last two notes	16 33	
			10143 81	5986 15
			5986 15	
		Balance Mch. 14th	$4157 66	
"	19	Cash.	500 00	
"	20	Note of Isol. Co		1357 37
"	"	" " " "		100 00
"	"	Int. on note $13.81, disc $15.00	2 81	
			4686 47	$2357 37

Edison Machine Works.

				Dr.	Cr.
1885		Carried forward		4686 47	2381 37
Mch	23	Cash. check.	J	1100 00	
		Cash	J	5 00	
"	30	Cash	J	1395 00	
	28	Cash	J	600 00	
	"	Sundries	J	4 85	
	31	Cash note.	J	1400 00	
"	31	" Doctor.	J	28 28	
"	"	" Burrows.	J	6 12	
"	"	Salary for March	J	250 00	
				$9473 72	$2381 37
				2381 37	
		Balance Apl. 1st		$7092 35	
Apl.	1	Cash to Biddulph	J	10 00	
"	2	Cash	J	1000 00	
	"	Int on Dist. Note	J	11 66	
		Note of Dist. Co.	J		1000 00
	3	Checks 156. 457.	J	842 16	
	4	Note 3 Month	J		783 33
	"	" 4 "	J		756 71
	"	Int on above note	J	32 39	
	"	E.M.W. Checks returns 2128. 2129	J	153 55	
	6	Note 3 Month W. Edison Ltd.			2446 95
		Interest on same.	J	44 25	
	7	Cash to Mulcahy	J	10 00	
	8	Check.	J	350 00	
	9	Check. E.W.B. for note	J	1283 40	
	10	Check.	J		50 00
	13	"	J		10 00
	15	Checks 1037 to 1500	J	2557 36	
				$14801 12	$5076 89

				Dr	Cr
		Carried for'd.		$14801 12	$5076 89
Apl.	21	Cash	J		500 00
"	1	Share of E&B Shaft. Co	J		4068 85
"	1	Dividend declared 6½%	J	2500 00	
"	21	Interest at 7% for balance from Mch 21.	J	39 24	
				$17340 36	$9645 74
				9645 74	
		Apl. 21st Balance		$7694 62	
	23	Cash. 100 Cash 10	J		110 00
	"	Note Dist. Co.	J		1269 09
		Int on note -	J	14 50	
	25	Exp. E.R.R. 2.55 Sundries 8.10	J	10 65	
	30	Check.	J	100 00	
	-	" This check is for 3 $100 - May 9th	J		2100 00
	"	Salary	J	250 00	
		Interest for month Apl.	J	34 38	
				$8104 45	$3479 09
				3479 09	
		Balance May 1st	J	$6325 36	
May	4	Expenses to Hibing & Pittsburgh		58 10	
		Cash.	J	400 00	
	5	Check.	J		600 00
		Note returned of Nov 5 1884	J	1000 00	
		Note 4 Month.	J		1000 00
		Interest on same	J	2 33	
		Cash	J		2 33
"	14	Check.	J	350 00	
	"	Check of Shaft Co.	J		350 00
		Expenses to date	J	5 35	
				$8162 14	$1479 33

Edison Machine Works

1885.			Dr	Cr
		Brought fwd	$8,162.14	$1,773.33
May.	16	Check.	600.00	
"	18	Check to Lupas	21.25	
"	"	" " Beggs.	10.00	
"	19	R.R. Check		614.41
"	20	Sundries (expenses)	10.25	
"	"	Cash 2 checks.	100.00	
"	21	Note W.E.L.Co 2 month		2405.00
"	"	Int. on above.	28.06	
"	"	Note Int. 3 m.		1311.13
		Int. on above	22.95	
		Check on 2 M.T.C.	388.18	
		" " 11 ward	900.00	
	28	Note Int. C. 3 months		813.14
		Int. on same	14.23	
		Check on 11 ward.	798.91	
	29	Directory.	1.75	
May	4	Extra expense to HHP 5810 charged to 6620	58.10	
	30	Salary.	250.00	
		Int. acct. May 1 1885 Approved & Statement off	40.60	.09
			11,206.42	6,917.40
June		Balance June 1st	4,289.02	
	4	Check to pay ct. $300.	1,127.87	
		Interest on Note	12.73	
		Note of Int. Co. $327.		1,040.00
	8	Note of Ins	78.33	
		Note of 3 month from the date		78.33
		Interest on same	13.70	
		Check.		13.70
	9	Cash.		5
			6,323.93	1,341.93

			Dr	Cr
		Carried for'd	$6,323.95	$1,341.93
	11	Note Int.		78.67
		Check. 195. 11. W.	742.90	
		Int on note	8.77	
	13	Checks.	1,300.00	
	15	Checks. Hoechen & Biddenph	355.90	
	16	Int note 331 2 m. $826.63		8.16.99
		" " 332 2 m $800		790.66
		" " 333 2 m $800		790.66
		Check 177 S M T C	300.00	
		" 205 11 ward	400.00	
	18.	Check. C.M.W. 50, B & Seely $90	140.00	
	11	Sundries	4.70	
	19	Check.	500.00	
		"	650.00	
	23	" 211 C.M. Scanlon	150.00	
	25	Cash.		500
		Expenses to Stanford & Bogg pl.	7.50	
		Note Int. 1 month		440.94
		Int on above note	2.60	
*	26	Cash.		40.00
	30	Int on check 750. Repr. item	0.36	
	31	Salary for June	250.00	
	"	Interest on the a/c	29.63	
			11,173.31	5,481.85
			5,481.85	
		Balance July 1st 1885	$5,691.46	

* Correct with C.M.W. Statement except $10 in the item issued 9. Gave back from original $50 & their statement made that in July.

Edison Machine Works.

			Dr	Cr
1885 July		Balance July 1st.	$ 5691 46	
"	3	Note due. J	786 71	
"	8.	Note 4 m. Dm N & Co. J		786 71
"	"	Int on same. J	15 73	
"	"	Check. J		15 73
"	9	Check. Dm & Co J	400 00	
	13	Cash to Noble J	50 00	
		Journey to Chicago & Des Moines J	150 00	
"	15	Check J	1500 00	
		" J	360 00	
	16.	Note Isd. to C M.W. 2m $1032.60 J		1020 55
	17	Check. ~~Dm & Co~~ 11 Ward J	850 00	
	22	Cash 11 Ward 400 Dm & Co 300 J	700 00	
			1050 91	1822 91
"	24	Cash 5, 6 J	11	
		Checks. 550. + 81 81 J	631 51	
		Interest on Isd Note	3 71	
		Isd Note to Cm.W. J		635 22
	25	Check 11. N. 222 J	900 00	
	29	Check 224 Jung. $1.00 C.J.R. $21.00 $220 J	121 00	
	29	" 229 Wiamnicks J	1 00	
	30	Note Isd. C + C M.W. 360 60 d. J		895 41
		Check. 227. 11.N. J	750 00	
		Interest on note J	1 04	
	24	Interest on Note Isd C M 635-22 J	8 44	
	31	Salary for July J	250 00	
		Interest on A/c to Aug 1 J	55 61	
June	30	Dividend J	2000 00	
July	31	Petty Cash J		1 00
			$ 16054 18	$ 3354 68
		M. Aug 1 balance by trial debits due	3354 68	
		Wall $1000 that was ass on exchange	$ 12699 50	
		note of Isd C for check given to		
		S. Insull.		

Edison Machine Work.

			Dr	Cr
1885		Carried forward	$ 12,699 50	
Aug	5	Note Sft. C. to C.M.W. J		500 00
		Interest on same. J	13 33	
		Cash. J		50 00
	13	Cash. J	800 00	
		Int on $369 Isd C. J	20 53	
		" " $367 " " J	13 67	
		Note Isd Co 369 J		1173 25
		" " " 367 J		1173 25
	15	Cash J		10 00
	20	Note Isd C $700 - $400 - J		1400 00
		Check. 11 H 1500 Dm & Co 79.50 J	1379 50	
		Interest on note 12.05 + 8.26 J	20 14	
		Expenses ofs to Milbs & Jerd J	6 45	
	24	Cash J		19 00
	27.	Note Isd C 900 J		1000 00
		" " " 600 J		784 97
		Int on 1st 1835 2nd 8.39 J	26 67	
		Cash (11 Ward) J	1600 00	
	28	Cash J	50 00	
	29	" J	1000 00	
	31	Int. on Check $995 held J	4 13	
	31	Salary for August J	416 67	
	22	Cash from Rapelo J		50 00
	12	" " petty cash J		1 00
			$ 18,500 91	$ 6251 47
			$ 6251 47	
			$ 12,249 44	

Edison Machine Works

			Dr	Cr
Sept 1		Carried forward	$12,249 99	
" 1		Note Scot & Co $ 89.		1298 35
		Interest on same	13 63	
Sept.	3	Cash to poor woman	5 00	
"	"	Check 2403	1000 00	
"	4	Int on 2 notes	23 33	
"	4	Scot & Co note 388 389 $1000 each		2000 00
	4	Cash	500 00	
Sept	22	Note $1000 due Feb 23	1783 23	
		Note of Sheffy & Edm. W.		360 00
		Int on " " " " " note	6 30	
	23	Check		602 39
		Note 3 m. $1200		1200 00
		Interest on $1200 note	21 00	
		Interest on 583 23 for 12 d.	1 36	
"	24	Note Scot & Co 411		834 60
		Int on same	14 60	
		Check 2404. N. W.	820 00	
"	28	Cash		41
	29	Note Scot & Co N W 60 d. $407		50 00
		Int on same	5 83	
"	29	Note Scot & Co N W 407. 60 d.		50 00
		" " " " " 409. 90 d.		50 00
		Int on 407. note	5 83	
		" " 409. "	7 75	
		Check	995 42	
	30	Cash which I paid to Edison A/c		1991 53
		Interest on Cly A/c	62 79	
	30	Salary for September	416 67	
			$17,923 18	$9,827 87

			Dr	Cr
1885		Carried forward	$17,923 18	9827 87
Sept	30	Cash to E. M. W.	3 00	
		Interest on Sept A/c	61 91	
			$17,990 09	$9,827 87
			$9,827 87	
			$8,162 22	
		Difference '04% on 2 balances		
Oct	1	Balance	$8,162 26	
		Note 417 Scot & Co N. W. 30 d.		1000 00 ✓
		Check	994 17	✓
		Int at 7%.	5 83	✓
"	2	Cash to Paving men	5 00	✓
		" " Weston on contract	1 00	✓
		Check. E Sheffy & for E M W	125 00	✓
	3	E Sheffy & note Gas P. E M W.		250 00 ✓
		Int on same	4 37	✓
		Check.	500 00	✓
	9	Check $200 Cash $100 (Salary)		300 00 ✓
	16	Cash (Salary)		100 00 ✓
	19	Note of J. T. Rice.		744 29 ✓
		Int on above	91	✓
	21	Cash		250 00 ✓
	24	Cash (Salary)		100 00 ✓
	23	Expenses to McCheetle	15 00	✓
	23	Lunches	2 50	✓
	27	Check		14 30 ✓
			$9,324 84	$1,866 59

Edison Machine Works

			Dr.	Cr.
1885		Carried forward	$9824 84	$1866 59
Oct	29	Note Geo Place & Shift & Co.		350 00
		Int on same		8 16
"	31	Cash		100 00
		Salary Oct.	416 67	
"	1	E. E. Dlg & Stock 10 Shares		1000 00
"	1	Dividend 2½ %	1000 00	
			$11249 67	3316 59
Nov.	4	Cash		50 00
"	6	Cash		100 00
		To Check & Scanlon	342 55	
"	11	Note due & returned	786 71	
		Note #109 4 m Due Mch 14		786 71
		Int on same & Check	18 35	18 35
"	14	Check	700 00	
"	14	Check. 2% N.H.		700 00
		Cash		100 00
	20	Cash		100 00
		Cash for exp to Scranton		50 00
	25	Cash to Leib's father	100 00	
		Expense to Scranton & Lowthorn	42 00	
		Int on Int Note 455 at 6%	2 71	
		Note 455 & Int Co. to Ess. M. 30d.		492 00
"	28	Cash		100 00
"	30	Note of Cumberland Co. 61 days		146 74
		Int on same	1 47	
	30	Salary Nov.	416 67	
		Petty Cash Nov 23	8 00	
		Int Sch. 4136 Nov. 1876 @ 6%	81 08	
			13749 21	5960 79
		Balance Dec 1st	5960 79	
			19788 42	

Balance from E. M. W. statement Dec 1st

			Dr.	Cr.
		Carried forward	$19788 42	
Dec	4	Note of Geo Place & Shift & Co		500 00
		Int on same at 6%	1 00	
		Check	490 00	
"	5	Cash		100 00
"	12	Note due 14th	1200 00	
		Int on another note a/c 6%	18 60	
		Cash		150 00
		Note 130 3 m. Due Mch 17.		1200 00
"	19	Cash	100 00	
"	"	Cash		100 00
"	24	Cash		50 00
"	26	Cash to Col Hunt	10 00	
"	29	Cash	500 00	
"	"	Cash	5 00	
"	31	Salary for Dec.	416 67	
		Interest on Balance		
"	12	E. E. Dlg & stock 25 Shares		2500 00
"	"	E. Shift Mfg Co		177 29
"	"	Dividend	4000 00	
		Int on a/c at 6%	41 07	
			19970 56	
			6371 29	6371 29
		Balance Jan 1st 1886.	9589 27	
			16000 00	
Jan.	2.	Cash.		
"	11	Cash		100 00
"	6	"	1600 00	
"	9	"		100 00
"	16	Check 275.		55 00
		Cash		100 00
		Error Nov. 23.		8 00
	18	Cash.		170 00
			$21499 27	$2063 00

Edson Machine Works.

1886			Dr	Cr
		Carried forward.	$12,199 27	$2063 00
Jan	19	Cash	40 00	
	23	"		100 00
"	30	"		100 00
Feb.	6	"		100 00
		Salary for Jan	416 67	
"	7.	Cash. & go. away		50 00
"	14	Note # 293 of Shfty Co	500 00	
		Check.		205
Feb	1st	Int on Jan a/c. at 6%	57 24	
"	20	Note of Shfty Co net.	350 00	
"	23.	Note # 159. 4 m. Due June 25th		500 00
		" 160 dated 26th 4 m. June 29.		350 00
		Interest on above two notes 6%.	17 00	
		Check.		17 00
	24	~~Check~~. Seal		100 00
	23	Cash & go. Akron		100 00
"	27	Cash. "		100 00
"	"	Salary for February	416 67	
"	"	Cash & M. Bergal for patent		50 00
	13.	Cash		100 00
			$14,356 85	$1,935 00
			3935 00	
			$10,421 85	

Edson Machine Works.

1886			Dr	Cr
Mch	1.	Carried forward.	$10,421 85	
"	"	Note of Shfty Co. 299.	1000 00	
"	"	Note 4 m. & C.B. #170. July 4.		100 00
"	"	Int on same & check.	2 00	2 00
"	6	Cash.		100 00
"	13	Note of Shfty C.	350 00	
"	"	" " " B.M.W.	706 71	
"		Note #174 Due July 16		350 00
"	14	" 188 " " 17.		706 71
"		Interest on notes above	22 73	
"		Check.		22 73
"	13	Cash.		100 00
"	18	Note #130 B.M.W. & C.B. Due 1st	1200 00	
"	"	Note #309 C. Shfty, Huff & C.B. Due 1st	350 00	
"	18	Checks 341, 342,	3000 00	
"	18	Note 192. & C.B. Due June 18		1200 00
"	"	" 193 " " July 23.		350 00
"	"	Interest on same at 7%	30 07	
"	"	Check.		30 07
"	19	Check.		200 00
"	20	Cash		10 00
"	22	Note #321 Shfty Co.	360 00	
"	24	Note 4 196 B.M.W. & C.B. June 15		360 00
"	24	Int & check	651	651
"	24	Check ENTERED TO L.S.		3000 00
"	29.	Cash		100 00
"	31	Salary for Mch.	416 67	
"	31	Note 313 Shfty Co. Mansfield & Cogs.	417 03	
"	29	Chapel Lines for #2.95 Cash		3 95
"	31	Interest for Feb + Mch.	104 25	
			$18,485 82	$772 97

Drexel Morgan & Co

			Dr	Cr
1844		Carried from Page 95.	$ 880 66	
Dec	20	Check. 126 E.M.W.		450 00
"	27	" 127 E.M.W.		138 00
			$ 880 66	$ 588 00
Dec	30	Checks.	243 50	
"	31	" 128 C.B.		100 00
1845 Jan.	3	" 130 E.M.W.		189 76
"	1	" 129 A. B. Commerce		10 00
		Week ends Jan 4th 1845	1124 16	$ 887 56
Jan.	13	Check.	1216 95	
		Draft in London £053. £50.		243 00
	15	Check 133. Self.		100 00
	20	" 130 Bauman Bros		225 00
	23	" 131 C P Light Co.		75 00
	29	" 132 E.M.W.		312 93
	29	" 134 Hiram Merritt		133 33
	30	Check £250 £15	260 00	
Feb	4	Check. 135 E.M.W.		308 25
"	7	Check 137. H Merritt		15 00
"	"	Note Int. B for collection	1250 00	
			$ 3151 11	$ 2356 51
"	9	Check 136 Hastings Bros		75 00
"	11.	Check.	768 76	
"	20	" 138. E.M.W.		409 57
"	"	139 Halton Bros.		100 00
	26	141. B Lefty Mfg Co		300 00
"	27	Check. 136 returned.	75 00	
"	"	Check. 140 H S Hastings Bros.		36 00
			$ 4694 87	$ 3377 16
			3199 14	
			$ 1495 73	

Drexel Morgan & Co

			Dr	Cr
1845		Mch 1st Balance.	1495 73	
Mch.	2.	Sly C note.	1088 42	
"	4	Crowell check.	14250 00	
		900 - 4½ %	202 50	
"	5	Check. 142 Fulton Bank.		1537 55
"	7	Check. 144 Charts.		2000 00
		" 145 Pickering C.T.C.		404 55
			$ 16836 65	$ 3942 10
"	10	" 146 A. P. Cooley & Son		3175 00
"	11	" 147. Washburn M & Co.		263 36
"	12	" 143. E.M.W.		492 50
	12	" 148 "		2000 00
"	17	" 149. C.B.		100 00
"	20	" 150 J Merkle.		25 00
"	21	" 151 E.M.W.		1100 00
"	30	" 152. E.M.W.		400 00
"	31	" 153 E.M.W. (Sacher)		28 25
"	"	" 154 Burrow for E.M.W.		6 12
			$ 16836 65	$ 11532 36
			11532 36	
		Balance Apl 1st	$ 5304 29	
Apl	2	Check 155 E.M.W.		100 00
"	3	" 156 for E.M.W.		366 91
"	"	" 157 " " " "		500 25
"	4	" 158 Benedict Bros		34 00
"	5	" 159 B Lefty Co		150 00
"	8	" 160. C.B.		150 00
"	8	" 161 E.M.W.		350 00
"	8	" 162 F.S. Hastings Bros.		114 00
	9	" 163 E.M.W. for note		1383 40
			$ 5304 29	$ 3953 56

Drexel Morgan & Co.

			Dr	Cr
1885		Carried forward	$5304.29	$8953.56
Apr.	10	Check 164 E.M.W.		1500.00
	"	" 165 C.B.		100.00
May	4	" 166 H. Merritt		133.33
"	5	Check $10, $100, $50	160.00	
			$5464.29	$5686.89
			5686.89	
			77.40	
May	9	Balance as per pass book.	$77.55	
"	9	Check 167. $100 E.M.W. $700	800.00	
	16	Check. 170 J. Merriam.		25.00
	18	" 169. Lugan		21.25
		" 168 J. S. Beggs.		1.00
	20	Check.	614.71	
	21	" 169 E.M.W.		388.18
"	25	Check.	750.00	
	29	" 171 C.B.		100.00
June	4	Gr. Check. $202.22 E.M.W. $13.33 La E. $100	345.83	
		Check. 173. E.M.W.		300.00
"	5	" 174 De Costa & Co.		21.00
"	8	" 172 E. S. Iffp Co.		200.00
	12	175 J. Holland		40.00
	13	" 176 E. Sift Mfg Co		100.00
	16	" 177 E.M.W.		300.00
	18	" 178 H. Perry for E.M.W.		90.00
	29	" 180 J. Merriam.		25.00
	29.	Check.	700.00	1619.43
			$3317.09	$1619.43

			Dr	Cr
			$3317.09	$1619.43
July	3.	Check $100 $10. $20	230.00	
		Draft Louis J. Foo-		243.00
	12	Check. 185. E.M.W.		600.00
	14	Check 181 E. Tube Co		400.00
	22	Check 187. E.M.W.		300.00
	24	" 182 " " "		81.57
June	20	Check 188. E.M.W.		200.00
	28	Check C.B. (N.W.)	800.00	
			4348.09	$3693.94
			3693.94	
		Balance July 28.	654.15	
Aug	6	Check. 186. H. Merritt		12.00
	11	" 155 S.S. for Tube Co Note		95.16
		Check.	500.00	
	13	Check 184 E.M.W.		200.00
	20	" 186 E.M.W.		49.86
Sept.	21	" 195. Mark. Rec. Miscellaneous		7.22
			1154.15	394.24
Oct.	8	" 190. E.S. Iffp Co		165.87
Nov.	13	Check.	188.18	
	15	Check 189 E. Sift Mfg Co		39.30
"	20	Check	700.00	
			3420.33	956.11
"	30	Check. 192. H.S. Perry.		150.00
Dec	12	" 194. C.H.J.		10.00
"	14	Draft to Louis -		243.50
"	26	Check. 193. Sam'l Hunt		100.00
	29	Check	7.50	
		Check. 196 E.M.W.		50.00
			$4490.33	$3311.61

~~Estate~~ Drexel Morgan & Co

1886.			Dr	Cr
Jan	1	Carried forward	$4,490.33	$33,156.61
"	6	Check. 197 E. M. W.		200.00
"	11	" 198 W. & J. Sloane		30.00
Feb	23	" 199 J. Bergman (Pkg)		25.00
Mch.	22	" 201 Chimnock		150.00
			$4,490.33	43,236.61
Mch	31.	$11,000 U.S. Reg. 4. 125 & 126.	13,798.12	
		Check & CB.		10,000.00
Apl.	1st	Check. 200. H Merritt		133.33
Apl.	1st	Check 201 Returns	150.00	
"	"	" 202 Taylor & Co		139.00
Apl	2	" 203 J. Bergman		11.00
"	"	" 204 E.M.W.		50.00
			$18,438.45	16,464.96
Apl.	6	Check. 205 E.M.W.		1000.00
"	10	" 206 Sloane (Pkg)		260.00
"	10	" 210 J.C.S. for E.M.W.		150.00
"	12	" 211 Degraaf & Taylor		25.75
	16	" 220 E.M.J.		189.65
		Check E.M.W.	200.00	
			$20,438.45	$19,792.34
Apl.	19	" 208 Bergman Dr.		10.00
"	"	" 207 C.B. Spare Bank		200.00
"	28	" J.S. & E.M.W.	644.28	
"	"	" 209 E.M.W.		644.70
May	1.	" 212. H Merritt		133.33
"	3.	Draft on London Brewer Jones		24.12
"	15.	Check. $311.12 & $24.12 " $23.33	358.67	
"	21	Check. 213. E.M.W.		350.00
		Interest Acct & Dec 1st	12.72	
			$27,271.02	$27,090.21

Drexel Morgan & Co

1886			Dr	Cr
		Carried forward	$27,271.02	$27,090.21
June	19	Cash	494.00	
"	21	Draft on London £213 & £50		245.00
"	24	Check. 214 C.B.		20.00
"	24	Check. (S/P)	1,474.55	
"	"	Check. 215 (E.M.W)		1600.00
July	24	Check $100. & $50.	150.00	
"	26	Check. S.P.	250.00	
"	"	Check 217. E.M.W.		210.00
"	"	" 218 C.B.		10.00
"	27	Check.	638.97	
"	"	Check 216. E.M.W		600.00
			$32,528.84	$31,760.21
July	28	Check. 219 E.M.W.		435.97
"	31	" 221. H Merritt		145.33
Aug.	9.	Cash	160.58	
Sept	10	Cash	30.00	
"	13.	Check 222 Taylor & Son		102.25
"	25	Check	600.00	
"	"	" 226 H. E.M.W.		500.00
"	25	" 223 Degraaf & Taylor		29.50
"	"	" 224 Anderson & Hogan		34.00
Oct	2	" 225 Athletic Club		70.00
"	18	" 228. Nield & Hewitt		105.60
			$39,169.42	$33,765.96
"	18	227 E.M.W		916.67
Nov	24	" 232. Degraaf & Taylor		82.00
Dec	10	Cash	202.50	
"	16	Gift Funds £213 on London £50		242.25
"	22	Check 229 J. Hilliard for E.M.W		10.00
			$39,371.92	$39,138.88

Pascal Morgan & Co

1886			Dr	Cr
Dec	22	Balance	$ 139 04	
1887 Jan.	3	Check.	320 00	
"	"	Check. 230 H Merritt.		139 39
"	5	Check (B to C)	500 00	
"	6	" 231 Degraaf & Taylor		50 50
"	"	" 232 Gorham Mfg Co		52 50
"	"	" 234 Consolidated Gas Co		11 62
"	"	" 235 Madley & Co		12 50
"	"	Cash Graff & J Handford.		25 00
"	7	Check. 236 J Hutel (for wife)		100 00
"	12	" 237 " " "		100 00
			$ 959 04	489 40
1887. Jan	13	Cash.	27 00	
"		Check. 238 N. Morris (Auction)		304 00
	15	Check. £100 £400 £500	600 00	
		" 239 C.S.		150 00
		" 240 F K Upton		850 00
	22	" 241 Barker & Co (painting)		135 00
		" 242 F. J. Sprague Stock		50 00
		" 243 E. T. Gill (for cash)		100 00
	24	" 244 Tiffany & Co		535 25
		" 245 Degraaf & Taylor		170 00
			$ 1225 04	3179 70
	24	" Checks.	319 00	
	25	" Check 246 Crooke & Co		15 00
	27	" " 247 Safe deposit		15 00
	29	" (Left blank) 250 S Bergman & Co		19 00
	"	" " 251 J.H. (for cash)		100 00
	27	" " 249 Schenck (painting)		160 00
	29	252 Bergman & Co. check can		31 00
			$ 1644 04	6221 70

Jan	29	Check 253 Merritt (rent)	$ 75 44 04	6221 70
		Check.	1500 00	139 39
		European C. check	450 00	
"	31	Check 254 Ch C M W.		750 00
"	"	255 " " " "		700 00
Feb	4	Check.	160 00	
			$ 23,184 14	$ 21,255 83
1885 Dec	21	Int at 6% Estate on W Bal.		12
			$ 23,184 04	$ 21,255 95
			$ 21,255 95	
1887.		Balance Feb 4 Tagliere with Fol	$ 1928 29	
Feb	15	Cash	464 20	
"	23	Cash	184 00	
Mch	1	Check.	110 00	
"	28	" 256 Oswald (for ins)		100 00
"	5	As per sale of French securities	3478 65	
Apl	6	Check.	252 00	
"	"	~~Check 257 retitle for B & C~~		~~500 00~~
"	7	Check 257 Left		1 00
"	16	" 261 Taylor & Co		1000 00
	9	" 259 Sprague Co		190 00
	12	" 260 Leg		250 00
			$ 7429 14	$ 1850 00
"	16	" 262 Murray & Drury		216 00
"	20	" 263 Dyer & Lee Exp		200 00
"	25	" 264 U. Copper Co		200 00
"	26	" 265 Ch C. M. W. (for note)		479 40
	26	" 266 C.S.		75 00
May	1	267 C.S.		100 00
			7429 14	$ 6420 45

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Dyer and Seeley

1886			Dr	Cr
Jan 16.	Cash	June 29. 1885.	65 00	
	"	Nov 15 "	45 00	
	"	Dec 3 "	25 85	
	"	Jan 16 1886.	55 00	
	Preparing appl. of Batchelor & Walters			
	Syn Case Mach. (Auxiliary) June 29			50 00
	Govt fee on Same 1885			15 00
	Sept 25. To Amendment & argument in appl. of Batchelor & Walters. Expense & copies provided			25 85
	Jan 14 1886 Preparing application on Armature commutator & Govt fee			55 00
	Nov 13 1885.			
	Preparing appl. Connection for Armature " Case & Govt. fee			45 00
Feb 5	To French pat on Comm. Com.			125 00
	" Pen " " " "			60 00
	" Ref. " " " " Fees for			20 00
" 15	Check of E. M. W. & Co —		205 00	
Ap. 1	Final Govt fee B.T.W. dynamo			20 00
" 12	Prosecuting U.S. appl. Municipal			10 00
" "	Final Govt fee " "			20 00
" "	Disposition expenses to Mr. Coleman			5 00
" "	French Patent Municipal D.			125 00
" "	Canadian " " "			60 00
" "	Johnson Lamp French			125 00
" "	" " German			150 00
" "	" " Italian 15 yr			200 00
" 13.	Note of E.M.W. & Co.		450 00	
"	Papers for Austria for Johnson Lamp			30 00
			$848 85	$1,149 78

			Dr	Cr
	Brought forward		$848 85	$1,149 78
May 1.	2nd Annuities on Sprague 6 yr pat 21 paid Apl 15			42 00
Apl 29.	prep. Appl. H. E. Walters on Transformer. $50 1st Govt fee $15			65 00
	Further reduction on Austrian application on Johnson's Lamp		5	
Aug. 26	Cash.		402 93	
Sept. 1	To 2nd Annuities on two French pat. Sprague Case 9 + 10			42 00
Nov. 3.	Transformer & Assignment			5 00
	" Govt fee			20 00
	Preparing Walters & Batchelor on outside case Cap Syn. Case A.			50 00
	" B.			40 00
	Govt fees for both			30 00
Dec 6.	Cash		185 00	
" 29.	Walters starting Motors 1st Govt fee $40 $15 accept 5			60 00
1887 Feb 1.	2nd Annuity Sprague 11 French			21 00
15.	2nd Ann. Batchelor French 1144 940 Commutator			21 00
" 1.	4th Ann French Sprague 11 1007			21 00
"	Preparing appl. Armature & final Govt fee for same. Reports Ann & Chapp.			55 00
Apl 8.	3rd Ann. on French Sprague 3, 4, + 5,			63 00
	3. Ann. French Sprague 6. due May 5			21 00
			$1,445 78	$1,905 78

Cyclo Film Leeles

1884.			Dr		Cr	
Apl	8	To 3 Ann. French Gragin #9 due May 26	1445	78	1703	78
"	8	2nd Ann. Batchelor French Pat Ann. due May 18			21	00
"	8	Final Govt fee in Batchelor & Walker non-working patent			40	00
			1445	78	1784	78
Feb	18	Cash	81	00		
Feb.	20	"	201	00		
Aug	5.	Letter etc as to working of Pat			5	00
"	"	3rd Ann. French Gragin 9 + 10.- 140819 - 140820 -			42	00
"	15	To Cash.	63	00		
"	16	To Cash	47	00		

Real Estate. Williamsburgh — 2 Lots Cor. Nd 15th & Berry St.

			Dr	Cr
1886 Feb.	16.	To Charge making deed & recording same & mortgage Rec'd paid was $1800 for commission and $1440 for rent — on Bond & Mt. at 6% Payable $99.20 15th Feb & Aug.	29 20	
1884 Feb	1	Walters Motor Starter Patent Patent, 1st Govt fee Stamp.	60 00	

270

The Electric Railway Company of the U.S.

			Dr	Cr
1885				
Jan.	23	Subscription 20% to 26 Shares	78 00	
Feb	9	" 20% to 25 "	75 00	
"	27	" 20% on 25 returned		75 00
"	"	Subscription 20% to 12 Shares	36 00	
Apl.	8	Subscrip $3 per Share	114 00	
Aug	13	" " " "	114 00	
Nov	13	" " " "	114 00	
1886 Mch.	1	" " " "	114 00	
"	15	Recd. By Mass of Mg exp wch J. A. Edison - 166 Shares.		
		Dec 31 1886 B. S.	$570 00	
Jan.	1885	Given 166		
Mch	1885	Bought. 38		

Taylor & Co

1886			Dr	Cr
Mch.	3.	To Cash paid in	600 00	
"	14	To Cash paid in	1000 00	
		To Cash " "	10 00	
Apl	1st	" Cash " "	139 00	
"	26.	Note of Smith & Co. 13.	1000 00	20 50
"	29.	Discount on note		
May	3	Check.	20 50	
May.	19.	Expenses of first deed and Rat.	29 70.	
"	26	By Note of May 24 3 m.		750 00
"	"	By Cash $700. 35 75	735 75	
		By int at 6%	11 25	
June	30	Int at 6% for $4000 2 m. 6%	40 00	
			$4840 20	$770 50
			770 50	
			$4069 70	
July. 30.		Int at 6% 1 m.	20 35	
July 30		Dividend		1540 00
			4090 05	
			1540 00	
		Balance July 31st	3930 05	
Aug	1.	Bd. Shares	920 00	920 00
			3616 05	
Sept	30	Int at 6% 2 m.	36 06	
Oct.	11.	Check.		219 00
			$3652 11	
			219 00	
		Bal. Oct 11	$3433 11	
Jan	22.	Int for 3 m. at 6%	75 33	
"	22.	Cash.		219 00
			3508 44	
			219 00	
		Balance Jan 22d 1887	$3289 44	

1887			Dr	Cr
Jan	22.	Brought forward.	$3289 44	
Apl.	1	Int at 6%	49 34	
May	21	Dividend to Apl 1st		248 20
			$3338 78	
			248 20	
			$3090 58	
May 1		Int at 6%.	15 45	
June.	20	Check for Apl div.		102 20
			3106 23	
			102 20	
		Bal. May 1st	$3004 03	
July	1	Int at 6% 2 m.	30 04	
			$3034 07	
Aug.	16	Int at 6% 1½ m. (Aug from 30 last div)	22 80	102 20
			3056 87	
			102 20	
		Balance Aug 16th 1887.	$2954 67	
Aug.	22.	Bd. int at 6% & check & div.	2 90	102 20
			2957 57	
			102 20	
		Bal Aug 23d 1887.	$2855 37	
Sept.	30	Dividend for Aug 1st 1887		102 20
"	"	31 days Int to Sept 30 at 6%	17 39	
			$2872 76	
			102 20	
		Sept 30th	$2770 56	
Oct.	24	Int at 6% for 24 days.	10 92	
		Cash. div. for Sept		102 20
			2781 48	
			102 20	
		1887. Bal. Oct 24th	2679 28	

Taylor Bros Co Stock

			B.	S.
Dec. 1886	On hand. Shares.		73	
Mch 1884	Capital increased		292	

Sprague Elk R Car Motor Co.

1886			B. S.	Dr	Cr
Mch	31st	2/3 payment on 50 shares stock at $200		10000 00	
Apl.	17.	Note #193. Cm & C B. $303		344 75	
		" #205 " " $400		392 00	
		" 206 " " $417.03		408 69	
		" 188 " " $486 41/100		477 91	
		" 192 " $1200		1188 00	
		Check to Cbt Johnson		189 65	
June	30	Int at 6% to date		212 50	
				$15212 50	
Aug	30.	Int at 6% to date	50	76 06	
1887 Jan	22	Rec. on increase of Cap.	200		
Jan	23.	10% on shares bought	32	500 00	
Jan	1st	4 m. int at 6%		305 76	
		Balance Jan 1st	282.	16094 32	
Feb	9	Cash		1900 00	
Apl.	1	Int. 3 m. Int.		241 41	
				$18235 73	
Oct.	17.	Int to date from Apl. 9th		569 18	
		20 Shares to Bergman at $20	20.	$18804 91	160000
				16000 00	
		Balance Oct 17th 1887.		$17204 91	

Sprague R.W. & Motor Patents in France.

			Dr	Cr
1886 Apl.	1	I agree to pay the patents so far in France (about 900 which Sprague I can take six months to if I want) and agree to work the patents & pay the annuities for a one quarter interest in them in France		
1886 Apl.	15	Paid Dyer & S. for exand annuities on #161009 & 161395 & 21	42 00	
June		Model for #161009 19 June 1884	100 00	
July	8	Branson for 161009 working	40 00	
Sept	1	Dyer & S. bill 2d ann. 161395 & 10 170819	42 00	
Dec	17	E.H.G. note 1000 on a/c of money paid by him for French pat.s	1000 00	
Dec.	6	Cash to E.H.G. "	82 06	
		Dec 1886.	$1306 06	
Jan 1887	7	Dyer & Hartford for ann. on Sprague French. #147395	25 00	
Feb	1	3d Ann on Sprague French 11 174940	22 00	
"	15	4th Ann on French 161009	22 00	
"	15	3d Ann on " 161021 & 161155 4th & 5th 161155	66 00	
		May 5 3d Ann on French 6 " 161047	22 00	
		May 6th 3d Ann on " 7 " 161155	22 00	
		June 1st 1887.	1478 06	
Aug	1	Working 9 Sprague 161395 Mch 3 1885 Fr 212 55	42 51	
"	8	Consultation on Working patents	5 00	
		3d Ann French 9 & 10 170819 170820	44 00	
			$1569 04	

			Dr	Cr
		Carried forward	$1569 04	
1887 Apl.	4	E.H. Working French patents:		
		Aug 6 168123 7 Apl 1885 Fr 378.15	2d 3d	3
		" 168122 " " " 189.15	2d 3d	4
		" 168121 " " " 189.15	2d 3d	5
		" 168694 5 May 1885 258 15	2d	6
		" 169153 20 May 1885 253.15	3d 2d	8
		Gramme Mach hired. 40 00		
		Bill $1205.45 4212.75	$2427.50	
			$7000.17	

161009 18 March 1884 3d
167395 3 Mch 1885 3d
1 174940 23 March 1886 2d
2 176211 18 May 1886 2d
3 170819 25 " 1885 3d 2d
9 170820 " 2d
10 174045 9 Feb. 1886
11

International R. W. Tel Co.

1886			Dr	Cr
Dec	21	Received from I.A.E. for Service rend: shares - 50 —		

Blind Pool. W. C. Light Co.

1884			Dr	Cr
Jan	17	Paid to Ch. J. Co 20% of my subscription of $5000	$ 1000.00	
"	24	Rec'd from Ch. J. Arrangement not proceeded with		$ 1000.00

		Bought	Sold	Profit & Loss
1884 Aug.	50 Hale Morrison.	$327.00		2.50
Dec.	50 " "		$161.44	163.56
1885 Dec	17 Bel Tel. 170%	$2915.45		
1886 Jan	15 " " Reo	2400.00		
Sept	32 " " 192½			987.50
1886 Mch.	50 Sprague (increase $250)	$15,000.00		
1885 J & D.	30 E R W & U S.	$570.00		
Nov 1886.	10 E E. Light Co.	1400.00		
Nov. 1886	250 E E Light of Europe at $6.50		$1625.00	
Nov 1886	100 E E. Light Europe £6		600.00	
Dec. 22 1886.	20 E E. Light & Stock @ 130	$2600.00		

			Bought	Sold	N H L.
1887		Carried forward			
Jan	17	25 E E. Light Co. @ 140	$3500.00		
Jan	22	~~32~~ Sprague at $ ~~[illegible]~~ incl a bonus of 25%. $75 ~~[illegible]~~	$2400.00		
Oct	17	20 Sprague $80 Reo. 6% Int.		1528.00	
June	27	Bought E E. Light Stock 60 at 225.	$13,500		

The Edison Machine Works Stock

1886				
Feb.	Received as my part in the Consolidation of the Edn. W. Edison Elctg. C. & the Lake Co.			
Dec 1886			1355	

The American Pulverizer Co. Stock

1886		D.	Shares S	$	Cts
May.	Spent to build first machine for which I was to receive 200 shares – I gave Mem: & the right as I got which cost me $157 23/100	100		157	23

The Universal Supply Co

1884.			Dr.		Cr.	
Apl.	25	For 20 Shares Stock Capital $2000	2000	00		
Oct.	10	Note of M. W. 500 # 684 22	643	29		
"	10	Int. at 6% on $2000	55	44		
"	25	Int. at 6% on $2498	12	46		
		Check. to Settlement	326	71		

Gerard Morgan & Co

1857			Dr	Cr
		Brought forward	7429.14	6410.45
May 1st		Checks. E.M.W. £250. + £115.	365.00	
		" Illg. C. chi.	37.45	
"	2	" 268. Geers		90.00
"	6	" 269 J. Randolph for me		70.00
"	9	" E.M.W.	115.00	
"		" 270 Self.		75.00
"	11	271 Geo. H. Carter Boston		38.50
	12	272. Butchers & Drovers Bk		10.00
	18	" 273. Latten for self		100.00
			$7946.39	$6898.95
"	20	Check Taylor Ins. Co	248.20	
"	25	2 Dehart Notes £7500 each less exchange $15 + 4% Com $37.50	1494.50	
"		My note dated Jan 31st 1857		1500.00
		11 d. int. at 6%		29.25
			$23.142.29	2.219.45
June	4	Check 274 Am. Ins. & Bloc. Co.		15.00
"	6	Check. E.M.W. 100 - S.A.P. 100	200.00	
"	"	" Lamps Co.	25.00	
"	"	Check. 277 J.R. for self		150.00
"	20	" 275 Rep.		10.00
"	20	" 276 Amer. Ins. Co		7.10
"	24	Check E.M.W. 100. Taylor & Co 102.20	202.20	
"	24.	Check. Hotel & Co (Cert)	1428.75	
"	"	Check 278. L & B.		1350.00
"	"	" 279 L & B.		10.00
July	2.	Bill on London. £50.		242.75
		Check 280. Self		700.00
July	2.	903. P.U. Mfg. Co. Int. July 1/	$37.788.24	37.074.30

			37.788.24	37.074.30
July	2	282 Curtis & Co.		151.38
"	21	Collection.	2395.25	
"	13	284 C.D. Crowther		125.00
Aug	1	285 Merritt.		146.38
		286 Gorham.		123.90
		287 Hilliard		115.00
		288 Illg. C. Sub.		1050.00
			$40.183.49	38.783.91
			38.783.91	
			1399.58	
Aug	6.	Checks. J & Co 102.20 Lamp Co. £25	152.20	
"	"	" Illg. Co. £5 + £45 Engra. 14.25	51.90	
"	14	" J & Co £102.20 Com. 200 39.25	341.45	
"	17	Check. 289 Self.		100.00
"	28	" 290 Hotel Bleslin		86.75
Sept.	3.	" 300 " "		87.50
"	"	301 C.T.G. excl.		6.00
"	6	Tac. £100, C.T.G. 50, Taylor 102.20	252.20	
		E.M.W. £100 + 100 + £100	300.00	
"	4.	Check. 291 Baldt.		75.00
"	12	" 292 Hotel Bleslin		139.60
"	13	" 293 B.B. Illg. C. & Y.		1050.00
"	14	" 294 Klein (for me)		50.00
"	19	" 295 Church (for me)		100.00
"	28.	" 296 J.H. for me		100.00
Oct.	6.	" 294 Ac. Sacred Hear.		207.01
"	17	Bill on Paris (Brandon) Fr 1215 ff		232.55
"	18	Check J. Berg man.	160.00	
"	22	Check (25 Apts.) (for the min. Cath.)	250.00	
			$4.847.13	$2244.63
			2244.63	
			$2.602.50	

300

Grace Morgan T.C.

			Dr.	Cr.
1884		Brought forward	$2302 50	
Oct	22	Check. 298 (C.S.) Cash	✓	300 00
"	24	" 299 Edison Wiring Co	✓	400 00
Oct	28	" 300 Universal Supply Co	✓	326 41
"	31	" 301 (C.S.) Cash for Coke	✓	135 00
"	"	" Cm. No. 100 Cobb $125	✓	225 00
Nov.	3	B. Illg. Co. $34.45 Bro. $496.66 Jas. E. $100	✓	631 11
"	4	B & Illg Co N.Y. #302.	✓	400 00

The Eleventh Ward Bank.

1884			Dr.	Cr.
June 4		482 J. H. V. Asst C. Illg.	$4461 65	$4616 32
"	8	483 J. R. for mt. +		20 00
"	11	484 Sel C		40 00
"	11	485 R. Ice Co		6 35
"	17	486 R. Seibel.		4 62
"	18	487 H. Mann & Son		20 00
"	25	488 Elect. World		6 00
July	1	489 Gas.		3 00
"	7	490 Merritt		5 50
"	2.	491 Sep		133 83
"	"	1825 ~~27~~ P. O. Mfg Co. 24 July	1825 07	300 00
Aug	1	492 Gas		2 62
		493 Gr. Sel.		4 36
		494 Van Richam		3 50
		~~495~~ Randolph for Bank		420 00
			$9286 73	$9218 10
		495 Cancelled	42 00	
"	4	496. Wood (home)		30 00
"	12.	497 Gl. & Le C		6 45
"	"	498 Dyer & Seely		63 00
"	8	499 Sel & Gl.		6 65
"	16	499 Dyer & Seely		4 00
"	19	500 Elion Wing Co		100 00
"	19	501 H. M. Lum (for Coal)		25 00
"	26.	502. C.B. (Cmr.) for Coal		100 00
Sept.	1	503 Clerk Newark Times		4 50
		506 Athletic Club		20 00
		507 Gas.		2 37
		508 Bradley & Co		7 37
			$9328 75	$8527 61

			Dr.	Cr.
			$9328 75	$8527 61
Sept.	1	Check 509 Merritt.		133 83
		510 Lupton Book		59 40
"	12	" 503 Latas (for mysely.)		57 95
"	13	504 Begley & Taylor		2 25
		511 Mel. Sel & Co		6 65
		512 Ottiwell		2 50
		513 Ice C		10 04
		514 Stewart (Carpet Cl.)		2 76
		515 H. Mann & Son		3 00
			$9328 75	$8799 52
			$8799 52	
		Sept 13th 1884.	$529 23	
Sept.	13	Checks $100 Cmr. $25 Lamp C	125 00	
"	19	" 516 Murray & Drury		96 00
Oct	1st	Checks Cm N 13, 69, $100, $100, Sept No 2	315 89	
"	1	Check 517 (C.C.C. for myself.)		150 00
		518 Merritt (Rent)		133 34
		Book made up at Bank & dates		
		Sept 15 shows difference of	19 15	
Oct.	10.	Check 519 R.B.		100 00
"	11	Checks Cm N 100, 100, Lamp C 25	225 00	
		Check 520 Sel C.		6 90
"	15	521 Mutual Life		105 00
"	14	" 522 Rodica & Bro.		11 55
"		523 Nelson Bro.		20 00
		524 R.B.		100 00
		525 A.S. Clark (Books)		10 00
	16	Check Cm N 100 C.C.C. 100	200 00	
"	25.	Checks Cm N 10 $145.35 Sep 1st $102.50	347 85	
			$1761 89	$933 12
			933 12	
			$1028 73	

11th Ward Bank

1884				Dr	Cr
			Carried forward.	$1024/13	
Oct.	24		Check. 526. R.B.		100 00
"	25	"	527. Manning, Freeman		32 34
"	31	"	528 R.B.		100 00
Nov.	3	"	529 Gas.		8 50
"	"	"	530 Degraff & Taylor		1 25
"	"	"	531 Bradley & C		1 75
"	3		532 Merritt Rent		100 00
"	4		533 R.B.		100 00
			534 Gas for Sept		3 00
Nov.	14		535 Mel. Ld & Tel C		6 70

Edison Mining Co. Capital $50,000

1889			$	Cts
Aug	19.	Subscription 25% on 400 40 Shares	10000	00
Oct.	24	Sub-as 6% 2 m.	10	00
"	24	Sub. 10% making these 35%	400	00

All Stocks at near market value as Chas B. Pavilles

		Dr	Cr
	Thos. A. Edison	65590	
1 Share.	Edison Lamp Co Stock $1 Share	300000	
Property	House & Lot Menlo Park.	350000	
	Telephone Royalty U S 4 1894 –	8400	
Share 25	R Ray Tel & Tel Stock		
	Samuel Insull. loan.		
Share	Edison Electric Light Co. #1 & 2		
Shares	Edison " " Europe #4		
Shares	Edison Telephone of Europe. #1		
Royalty	Edison Tel. in Canada 1/4 1000	2500	
5 Shares	Panama Canal part paid	252 40	
150 Shares	Edison Ore Milling Co. at.		

Statement Nov 15th 1884.

1

Around the World — for 4.

Days		Miles		
1	New York to Montreal $14.60 x 4	384	42	60
	8.45 a m to 8.45 pm D&H Route			
	Parlor Car $2 dinner $1 x 4		12	00
	Hotel at Montreal (Place Viger Hotel)			
2.	1¾ days at $4 x 4		29	00
	Carriage & expenses		6	00
3	Montreal to Ottawa 2½ p/hr.	120	13	20
	9.45 a m to 1.30 pm.			
	Hotel at Ottawa 1 day		16	00
	Carriage & expenses		6	00
4	Ottawa to Winnipeg 2½ p/hr pm.	1304	143	44
5	1.45 pm to 10.15 am 2nd day			
	2 Sections at $16		32	00
	5 meals at 75¢ x 4		15	00
6	Winnipeg Hotel 1 day $4		16	00
	Carriage & expenses		6	00
7	Winnipeg to Banff	922	101	44
	2 Sections 2 nights at $16		32	00
8	Leave 16.30 to 5.30 am 3½ hours			
	4 meals at 75¢ x 4.		12	00
9	Banff 5.30 am to 5.30 a.m. 14th			
10	4 days at $4 x 4		64	00
11				
12	Carriage drives & expenses		20	00
13				
14	Banff to Glacier	184	14	65
	5.30 a m to 14.15 pm			
	1 Day at Hotel $4 x 4		16	00
	Expenses.		5	00
15	Glacier to Vancouver.	423	46	52
16	14.15 pm to 12.40 pm next day			
	Sleeper 2 sections $8 each		16	00
	3 meals at 75¢ x 4		9	00
	Miles	3290	$672	88

Around the World

Days		Miles	Expenses			
16	Carried forward	3290	$672	88		
2	Hotel at Vancouver 2 days @ $20		40	00	$712	88
	Vancouver to Yokohama per Empress line @ $200 each		800	00		
14	Stewardess, Waiter & Stewardess	4330	50	00	850	00

Edison Machine Works. from Page 251

				Dr		Cr
			Balance as per Edison & Stetson			
			Carried forward Apl 1st	$ 1455	22	$ 7727	94
1886.						
Apl.	1st	Note #232 Edison & Co. 4 Aug 4		10388	81	3000	00
"	"	" 233 " " " 5m Sept 4				3000	00
"	"	" 234 " " " 6m Oct 4				4388	81
"	"	Interest at 7%.		311	12		
"	6	Bills payable. Note 313 Apl 7 Cr.		417	03		
Apl.	2.	Note 206 Due Aug. 6.				417	03
"	"	Int on same.		9	73		
"	"	Check.				9	73
"	"	Note Scot Co. & Edison M. #332 May 3				760	74
"	"	Int on same.		4	44		
"	"	Check				4	44
"	"	Check.		500	00		
"	6.	Check.		2000	00		
"		Check dated Apl. 13.				2000	00
"	"	Safty note # 325		4000	00		
"	"	E. M. H. note 201 Due				400	00
"	"	Int on same & check.		7		7	
"	4	Cash.				100	00
"	9.	Messengers.		1	17		
"	"	Books etc				1	90
"	10	Cash				100	00
"	"	Check to Simonson		150	00		
"	13.	Note #214 3 m. given by me to Edison				450	00
"		Int on same		7	88		
"	14.	Cash				100	00
"	24	Cash				100	00
"	26	Note #230 4 m. to Co.				100	00
"	"	Int on Check.		23	33	23	33
				$ 14220	53	$ 15872	75

				Dr		Cr
			Carried forward	$ 14220	53	$ 15872	75
Apl.	22.	Check S.B. & E.M.W.	✓			6473	28
		" & Co.	✓			1642	
		Check.	✓	6487	70		
May.	1.	Cash	✓			150	00
"	3	Cash	✓			5	00
		Sundries	✓	3	50		
		Bal	✓				
"	4	Cash	✓			125	00
"	8	Cash	✓			100	00
"	9	Expenses to West. Un. & Chicago	✓	132	82		
"	14	Cash	✓			311	12
"	15	Cash	✓			100	00
"	"	Salary for April	✓	416	67		
"	21	Cash (see statement in Ledger page 9.)	✓			200	00
"		Cash two checks	✓	700	00		
"	22	Cash	✓			100	00
"	"	Expenses of Lowrey myself & Schenectady	✓	26	53		
"	"	Exp at Orange & Broad St.	✓	8	00		
"	"	Cash	✓			700	00
"	24	"	✓			100	00
"	25	Passenger bill	✓			314	60
"	"	Cash				150	00
"	30	Cash	✓			100	00
		Salary for May	✓	416	67		
		Cash		102	00		
		Expense to Williamsport etc		48	00		
	31	Cash	✓			3	00
				$ 22564	71	$ 24568	26

The Ottison Machine Works

				Dr.	Cr.
1886		Balance Bryt for.	✓	$22564 71	$24558 26
June	5	Cash.	✓		100 00
"	12	"	✓		100 00
"	12	Saps etc + books.	✓		8 60
"	11	Expenses to Atlantic City	✓	12 50	
"	11	Cash.	✓		100 00
"	14	Cash & expenses Phon trans $19 ex Schenectady	✓	46 25	
"	19.	Cash.	✓		100 00
"	"	Cash & Insul.	✓	250 00	
"	22.	Note #159 for 530 June 25	✓	500 00	
"	24	Note #261 $500 4 m.	✓		500 00
		Interest for same & Check.	✓	11 67	11 67
	26	Cash. $600. $900	✓	250 00	
	"	Check of J. Insull.	✓		1470 80
"	28	Note 196. 3 m.	✓	360 00	
		" 160 " 4 m.	✓	350 00	
"	"	" 275 " ~~4 m.~~ 3 m.	✓		360 00
"	"	" 276 " ~~3 m.~~ 4 m.	✓		350 00
		Int on above 275 + 276. + Check.	✓	14 46	14 46
"	30	Note 175 returned Sue pay #	✓	1000 00	
July	3.	Note 279 4 m. Nov 6	✓		1000 00
		Note Reed & Lyon 4 m. Nov 1st	✓		905 00
		Int on above. 6.05 $20 –	✓	26 05	26 05
		Cash.	✓		100 00
June	26	Cash.	✓		100 00
July	7.	Cash check. 5% 11 M.	✓	126 37	
		Int. on Montreal Acceptance	✓	20	
		Acceptance 750 Montreal	✓		1269 37
June	30	Salary June	✓	416 67	
				$27954 48	$29535 76

				Dr.	Cr.
		Carried forward.		$27954 48	$29535 76
June	30	Transfer of half Paberizer bill of May 1st & Trans a/c.	✓	157 25	
"	"	Int on balance due Ott W	✓		31 79
Apl.	30	Sundries	✓		12 10
May	30	" $9.60, $9.50, $1.50	✓		12 10
June	30	" 1.13, 4.40			1 53
"	"	~~Int on bal. due Ott W. 6%~~		~~31 79~~	
July	1	Moulding for house.	✓		1 13
		Wire cloth	✓		14 50
July	12.	#189 Note returned	✓	350 00	
		Royal E Co chargt.	✓	126 37	
"	1	~~Bills for Wire returns etc~~			~~[illegible]~~
"	10	Cash	✓		100 00
"	17	"	✓		100 00
"	24	"	✓		100 00
"	24	2 Note Joel C. disc'd by Tickler Bank through Gov Place $319.37	✓		318 37
"	26	Cash. check.	✓	210 00	
"	27	" "	✓	60 00	
"	28	Check.	✓	438 37	
"	31	Cash	✓		100 00
		Salary	✓	416 67	
Aug	2.	Note 292.	✓	300 00	
"	7	Cash	✓		100 00
"	4	Note 30% 4 m.	✓		300 00
"	12	Interest on 30% + Check	✓	70 00	70 00
"	13.	Cash.	✓		100 00
"	20.	"	✓		100 00
"	26	"	✓		200 00
				$33214 21	$36066 44

The Edison Machine Works.

			Dr	Cr
		Carried forward	$35,214.21	$36,566.99
Aug.	31	Salary	416.67	
July	31	Int on fac. of Cm w July	7	7.59
Aug.	6.	Check.		160.55
"	30	Int on a/c for Aug.		5.38
July	26	Int on note of this date	48.19	
Aug	9	Cash	160.55	
			$35,839.65	$36,739.99
				$35,839.65
		Balance Sept 1st Carried to Cm w.		$900.34
Sept.	4	Bills Payable.		1,499.66
	8	Cash.		300.00
	8	Check.		44.99
	11	"		100.00
	18	"		100.00
	25	"		100.00
	30	"		100.00
		Cash to account in Society		1.70
Sept.	4	Bills & note due	300.00	
"	"	Interest on renewal.	44.99	
"	15	1 Desk.	50.00	
"	24	Cash.	500.00	
"	15	Paid Eger Hurley	50.00	
"	25	Check	500.00	
"	30	Salary for Sept	416.66	
		Int on a/c to Oct 1st	3.82	
			$9365.47	3446.69
			3446.69	
		Balance. Oct. 1st 1886	5918.78	

The Edison Machine Works

			Dr	Cr
		Carried for.	$5918.78	
Oct	1.	Note renewed	360.00	
"	"	" "	4388.81	
"	4	Interest	137.04	
"	18	"	23.33	
"	19	Cash.	976.67	
"	27	Interest	32.18	
	29	Note renewed	500.00	
"	"	Int.	10.00	
	30	"	21.54	
	"	"	17.50	
"	"	Cash	500.00	
"	31	Salary	416.67	
		Interest on a/c to Nov 1st.	6.90	
"	4	Cash.		137.04
"	1	Note # 361. due Jan 4		360.00
"	4	Note # 362 due Apr 7		4388.81
"	9	Cash		500.00
"	"	"		10.00
"	16	"		10.00
"		Note # Sprague due Feb 19		100.00
"	20	Acceptance Lawson No 22.		968.17
"	21	Cash		10.00
"	27	Note Jersey Light Co. 655. Jan 30		1846.28
"	"	" Light Co Jan 30		2143.22
	29	" # 380 due Mch 4		500.00
	31	Cash		10.00
	30	"		32.82
		Petty Cash		1.00
			14819.39	$16877.44
			16877.44	
			$2041.95	

The Edison Machine Works

1884			Dr	Cr
Nov.	1	Bills Payable	941 95	
	6	" "	350 00	
"	6	" "	1000 00	
"	"	Int on $1000 4 m	20 00	
"	20	Cash.	684 69	
"	"	Interest	3 44	
"	30	Salary	416 66	
Dec	6	Interest on $2000 note	60 00	
"	9	Bills payable	3000 00	
"	23	" "	688 13	
"	31	Salary	416 67	
"	"	Cash to Randolph R.C.	100 00	
"	31	Interest on C/C to Jan 1 1885	5 44	
Nov.	3	Cash		20 00
"	6	"		100 00
"	13	"		100 00
"	1	Bills payable		350 00
"	6	" "		1000 00
"	17	" Rec'd		688 13
"	20	Cash		100 00
"	27	"		100 00
"	30	Cash $10 Fdues. 40c		10 00
Dec	4	Cash		200 00
"	6	"		60 00
"	11	"		100 00
"	1	Bills payable		3100 00
"	18	Cash		100 00
"	24	"		100 00
"	27	"		100 00
"	31	Assn due.		84
			$7684 33	$6129 33

1884			Dr	Cr
		Carried forward	$7684 33	$6129 33
Dec	31	Cash from Randolph Dec 25		100 00
		Rec'd Cash on " "		99
		Cash from Randolph " 28		50 00
		Payment Seligman bill " 30		1260
			$7684 33	6292 92
			6292 92	
		Due me Jan 1st 1885.	$1391 41	
Jan	3	Cash		100 00
"	4	Note		360 00
"	8	Cash		100 00
"	14	"		100 00
"	21	"		100 00
"	31	Lawson's draft.		688 13
"	5	Board at Hotel		10 00
"	3	Petty Cash Int on 360 Note		5 40
"	31	Paid to assn.		40
Feb.	7	Note		1600 00
"	8	Cash		100 00
"	9	"		239 60
"	11	"		100 00
"	18	"		134 00
"	25	"		100 00
"	"	Assn due.		40
Mar.	4	Cash		37 00
"	"	"		100 00
"	"	Note		50 00
"	"	"		350 00
"	9	"		1000 00
"	12	Cash		100 00
			$1391 41	$8814 99

E. Carson Machine Works

			Dr	Cr
1884		Brought forward	$13944 41	5824 89
Mch	26	Cash		200 00
"	31	Ass'r Exes.		40
		Donation (Cash & J Farrell)		0 00
Jan	31	Notes Detroit Co.		15000 00
Jan	4	Int on Note $360	5 40	
"	"	Note returned	360 00	
"	31	Cash	400 00	
"	"	"	750 00	
"	"	Int. on Detroit note	38 00	
"	"	Salary for January	416 66	
"	"	Exc. Dec 28 Bridgeport & Hartford	16 60	
Feb	9	Int on Note $600	40 00	
"	15	Excs at Rochester	34 00	
	28	" " Schenectady	175 50	
"	15	Note returned	1799 66	
"	28	Salary for month	416 67	
Mch	1	Int on C/o for Jan & Feb.	7 44	
"	31	Note int. Mch 4	500 00	
"	"	" " " 4	350 00	
"	"	" " " 9	1000 00	
"	"	Int on above 3 notes	3 00	
"	"	Salary for March.	416 66	
"	"	Int to Apl. 1st	4 46	
			22094 46	$21030 89
			21030 89	
1884		Carried int C/o Apl. 1st 1884.	1064 07	
Apl	4	Note returned	4388 81	
			$5452 88	

			Dr	Cr
1884		Carried forward	5452 88	
Apl	4	Note returned	3000 00	
"	"	" "	360 00	
		Int on above three notes	229 88	
"	15	New Orleans excs.	71 20	
"	20	U.S. Note $2330.34 $39.88	2395 25	
"	"	U.S. Note $1779.45 $40.62	1820 07	
"	30	Salary.	416 67	
"	1	Donation to C.B. ass.		50 00
"	2	Cash		100 00
"	4	"		229 88
"	"	Note $4388.81, $3000, $360		7748 81
"	9	Cash		150 00
"	15	"		171 20
"	20	C.B. Mfg. Co. note		2395 25
"	22	Cash		100 00
"	24	C.B. Mfg. Co. note		1820 07
"	30	Cash		250 00
"	"	"		150 00
		Int on C/o to May 1st	3 81	
			13754 76	13070 21
			13070 21	
			684 55	
May	4	Cash		100 00
"	14	"		100 00
"	20	Note $322 for 684.55 4 m.		684 55
"	"	Int on same at 6%	13 68	
"	"	Check		13 68
"	23	Check		100 00
	24	"		100 00
			$698 23	$1098 23

The Edison Machine Works

1884			Dr	Cr
May	31	Brought forward	695 23	1095 23
"	31	Salary	416 66	
June	6	Check		100 00
"	11	Check		100 00
		Int. to June 1st on a/c	1 25	
		Ass. due to May 31st		80
"	16	Due for Patents as specified a/c sales of June 11 1884	612 73	
"	18	Note of (3/44) 4 m.		696 18
"	"	Int. on same (3/44) at 6%	13 45	
"	20	Check		100 00
"	23	Expense to Pittsburgh	41 50	
"	30	" " Schenectady	7 88	
"	"	Salary for June	416 67	
		To Amount due Edison $73 as per Contract dated 11/86 $100 Fair.	416 66	
"	"	Petty Cash		10 00
			2684 53	2095 61
			2095 61	
		Balance July 1 1884	$589 22	
July	7	Note returned #190.	500 00	
"	"	" " 191	350 00	
"	10	" " 141	160 00	
"	10	" " 238	360 00	
"	12	" " 192	100 00	
"	"	" " 237 due Aug. 13.	300 00	
"	30	Salary	416 66	
"	26	By note E.H.J. $3100 $2000		5000 00
			4816 88	
			5000 00	
		Balance Aug 1st	$ 2815 88	

1884			Dr	Cr
		Balance	2815 88	
Aug	1	Int. on a/c to date	22 98	
Aug	12	By note 4 m.		2895 61
		To Int. on same	56 78	
"	445	Expenses to Schenectady	11 00	
"	12	" to Altoona meeting	28 25	
"	13	Check		200 00
"	13	Check		39 25
"	24	Check		100 00
"	27	Check		100 00
Sept	1	Expenses	45 00	
"	3	Check		100 00
"	12	Check #482.		100 00
Aug	31	Salary	416 67	
		Cash to Weiner	1 00	
		Int. on $5000 Edison notes	100 00	
		Int. on % for Aug.	4 39	
Sept.	19	Check dated 17th #489		10 00
"		Note 322 returned due 23rd Sept.	684 55	
"	23	Note 505. 4 m. due Jan 26.		684 55
"	"	Interest due on 505	13 69	
"		Check		13 69
Sept	30	Check dated 20th Sept.		100 00
Oct	8	Check 509. Oct 7.		10 00
"	10	Check		10 00
"	13	Note 236 C.B. due Oct 10 returned	4388 61	
"	"	" 344 C.A. " Oct 20. returned	686 15	
"	17	Check. 529. Oct 15		100 00
"	24	Check. 531. Oct 22.		10 00
			$9284 15	$4853 10

The Cairn Machine Works

1884				Dr	Cr
		Carried forward.		$9284 13	$4533 10
Oct	24	Note 5744 4 m. Oct 20 1884			686 18
"	"	" 5745 6 m. Oct 20 1884			4388 81
"	1	Set on 5743 & 5744 notes	✓	145 38	
"	"	Cash Check 5740 Oct 27.	✓		145 38
"	31	Check.	✓		100 00
~~Nov~~	~~4~~	~~Check. 6[illegible] Balance P.A. Nov 5.~~			~~100 00~~
Sept	30	Salary for Sept	✓	416 66	
Oct	31	" " Oct	✓	416 66	
Sept	30	Dues Assn. & etc B.M.B. Co.	✓		1 30
				$10262 05	$10154 77
				10154 77	
		Balance Nov. 1st 1884.		$ 107 08	
Nov	4	Carried down from above.			100 00

Nov 15
Transferred Balance
$ 8.08

In Safe at Edison Machine Works.

1886					
Jan	22.	1. Cert. 14409. Com. Bell Tel Co.	15	Shares	Taken out Sept 25
Feb.	3	1 " " 14116 " " "	17	"	Taken out " 25
"	"	" 34 R R Tel & Tel Co	10	"	Taken out June 14 sold to Quinell
"	"	33 " " " " "	10	"	
"	"	32 " " " " "	10	"	
"	"	" 914 E. E. Illg. Co.	10	"	
"	"	" 943 E. E. Illg. Co	10	"	
"	4	" 318 E E Light of Europe	69	"	
"	"	" 344 " " " " "	10	"	
"	"	313 " " " " "	10	"	
"	18.	Cert. 961 E. E. Illg. Co. Norfolk.	15	Shares.	
"	22	Cert. 6 Shares E & Swan U S Light Co	1063	Shares	
Mch.	14	One bundle papers. Deed & Search of 144 Plane St. Newark. N.J.			
"	18	Cert. 112 for Electric R Way of U.S.	133	Shares	
"	"	" 41 for " " " "	39	"	
"	26	Patent (U.S.) 338 283. Mch 23 1886	Comm. connections.		
Apr.	8.	Certificate 195. Electric R way of U.S.	98	Shares.	
"	8.	Cert — Bergman & Co.	100	Shares.	
"	12.	Deed of property at Berry & 3d St.	Brooklyn N.Y.		May 12 1886 Taken out & sent to Burr & Jackson Wmb.
May	1	Cert 52. Sprague E R M & Motor Co	32	Shares	
"	"	50 " " " " " "	18	"	
May.	21	Patent (U.S.) Insulating Armature	# 341992		
July	24	Cert. 319 E. E. Light of Europe Stock	62	Shares.	
Sept.	4	Cert. 17. Taylor & Co	20	Shares.	
Nov.	15	Walters patent for transformer			
"	"	transformer assignment & rec			
"	16	Edison Electric L Co of Europe Stock Cert. 550	50	Shares.	
		" 648	5	"	
		" 649	5	"	
		" 651	5	"	

1886

Nov 18	Certif	651	for 5	Shares	B. C. Light Co.	Cancelled
"		652	" 5	"		
		661	1			
		662	1			
		663	1			
		664	1			
		665	1			
		666	1			
		667	1			
		668	1			
		669	1			
		670	1			
		767	10			
		768	10			
		769	10			
		771	10			
		772	10			
		773	10			
		774	10			
		775	10			
		776	10			
		777	10			
		778	10			
		779	10			
		780	4			
		781	10			

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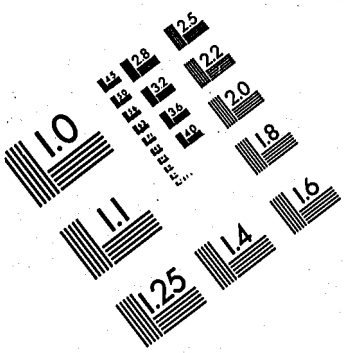

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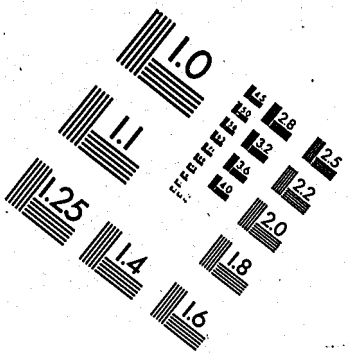
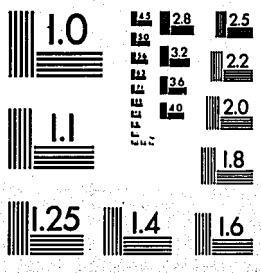
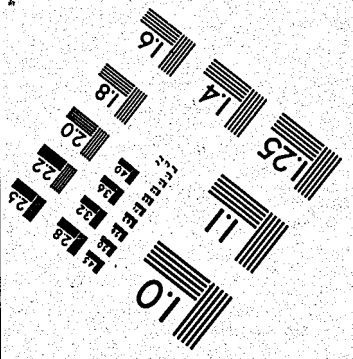
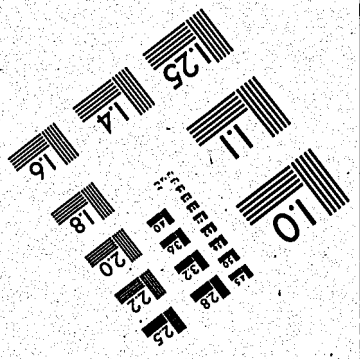


Centimeter

Inches